DIARIA BRITANNICA;

OR, THE

BRITISH DIARY:

AN

ALMANACK,

FOR THE

Year of OUR LORD 1791.

BEING THE THIRD AFTER

BESSEXTILE, or LEAP-YEAR.

CONTAINING,

A VARIETY of uſeful and entertaining MATTER in ARTS and SCIENCES:

Calculated, in a particular Manner, for the Improvement of the CURIOUS.

The fourth Almanack publiſhed of this Kind.

Diarian bards, behold the new
When merit rules, and intereſt
Juſtice ſhall be the object of our
And works of merit ſhall the laurell

BIRMINGHAM,

Printed and ſold by THOMAS PEARSON.

AT THE WHOLESALE ALMANACK, STATIONARY, AND MEDICINE WAREHOUSE IN THE HIGH-STREET,

Sold alſo by all BOOKSELLERS in England.

[PRICE ONE SHILLING.]

Chronological Notes for the Year 1791.

The Julian period	6504	Septuageſſima Sunday	Feb. 20
Roman Indiction	9	Shrove Sunday	Mar. 6
Golden number	6	Eaſter Day	April 24
Cycle of the ſun	8	Whit Sunday	June 12
Dominical letter	B	Trinity Sunday	June 19
Epact	25	Advent Sunday	Nov. 27
Number of Direction	34	Years of the Milennium	140

Aſtronomical Characters uſed in this Diary.

♈ Aries	♎ Libra	♅ Sidus	☉ Sun	☌ Conjunction	
♉ Taurus	♏ Scorpio	♄ Saturn	☽ Moon	✶ Sextile	
♊ Gemini	♐ Sagitary	♃ Jupiter	☊ N. Node	□ Quartile	
♋ Cancer	♑ Capricorn	♂ Mars	☋ S. Node	△ Trine	
♌ Leo	♒ Aquarus	♀ Venus	♁ Earth	☍ Oppoſition, or 6 ſigns	
♍ Virgo	♓ Piſces	☿ Mercury	☊ Paſt-for.		

Of the Four Quarters of the Year.

Spring Quarter begins	March 20, at 34 m. paſt 3	afternoon
Summer Quarter begins	June 21, at 37 m. paſt 1	afternoon
Autumn Quarter begins	Sept. 23, at 15 m. paſt 3	morning
Winter Quarter begins	Dec. 21, at 46 m. paſt 7	night

VENUS will be an evening Star till the 19th day of October, at which time ſhe becomes a morning ſtar to the end of the year.

JUPITER is a morning ſtar till the 17th Day of March, then an evening ſtar till the 4th day of October, at which time he becomes a morning ſtar to the end of the Year.

Obliquity of the Ecliptic.					Equal. of Equinoctial Points.		
January 1.	23°	27′	50″	2	+	8″	3
April 1.	23	27	49	8	+	6	9
July 1.	23	27	49	4	+	5	5
October 1.	23	27	49	0	+	4	1
December 31.	23	27	48	7	+	2	5

ECLIPSES for the Year 1791.

IN the courſe of this year, there will be four eclipſes of the two luminaries, viz. two of the ſun, and two of the moon, according to the following calculations, by Mr. George Dixon, of Goſport, Hants, Teacher of Aſtronomy and Navigation.

Two partial eclipſes will this year,
Unto the Britiſh iſles appear,
The ſun, yond glorious lamp of day,
Will be depriv'd of light I ſay;
Enverite the earth will be.

The moon likewiſe, will undergo
A deprivation, as below,
The times apparent I have ſhewn
For *Greenwich*; hence may find your own,
And then obſerve how they agree,
And ſend them to the *Diary*.

The

The first is a solar defect on Sunday the 3d day of April, visible, according to the following calculation.

	D.	h.	m.	s.	
Beginning April	3 at	0	20	13	P.M.
Middle - -		1	49	26	
End - - -		3	12	25	
Total duration -		2	51	52	
Digits eclipsed -		7 1/3			on the sun's north limb.

The second is an invisible eclipse of the moon, on Monday the 18th day of April, the beginning afternoon at 3h. 15m. middle at 4h. 42 m. the end at 6 h. 9 m. duration 2 h. 54 m. digits eclipsed 9[a] on the moon's south limb.

The third is an invisible eclipse of the sun, on Tuesday the 27th day of September, the ☌ at 11 h. 43 m. in ♎ 4° 46′ ☽ lat. 44′ 40″ S. the sun will be centrically eclipsed on the meridian at 12 h. 16 m. in longitude 176° 8′ east, and latitude 54° south.

The fourth and last is a visible eclipse of the moon, on Tuesday October 12.

	D.	h.	m.	s.	
Beginning October	11 at	12	5	39	P. M.
Middle - -		13	38	44	
End - - -		15	11	49	
Duration - -		3	6	10	
Digits eclipsed -	-	9	3		on the moon's north limb.

Mancunienſis alſo ſent calculations of all the eclipſes, with types for the two viſible eclipſes for Greenwich, as follow:

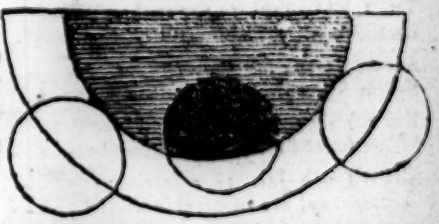
	D.	h.	m.	s.	
The ſun's ed. begins, Ap.	3	0	17	4	P. M.
Middle - - -		1	46	5	
End - - - -		3	9	21	
Duration - - -		2	52	17	
Digits eclipſed -		7	17		

on the ☉'s north limb.

The ☽ makes the firſt impreſſion on the ſolar diſc, about 96° from the ☉'s vertex on the right hand.

The moon's ed.	D.	h.	m.	s.
Begins - Oct.	11	11	59	56
Middle morning -		1	35	37
End - - -		3	11	18
Duration - -		3	11	22
Digits - - -		9	17	

on the ☽'s north limb.



Mr. Jonathan Hornby ſent the times of the viſible eclipſes, for Weſterdale, as did Mr. William Swiſt, for Stow.

A TA-

A TABLE *of the* MOON's *fouthing, or Times when fhe paffes the Meridi of* Greenwich Obfervatory, *for the Year* 1791.

M	Jan.	Feb.	Mar.	Apr.	May	Jun	July	Aug.	Sept.	Oct.	Nov	Dec
D	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m	h. m.	h. m.	h. m	h. m
1	8 49	10 22	9 10	10 29	10 46	11 44	11 59	1 7	2 27	3 15	5 4	5
2	9 48	11 16	10 2	11 13	11 29	0 a 32	0 a 48	1 55	3 20	4 13	5 56	6
3	10 47	0 a 7	10 51	11 58	0 a 15	1 20	1 36	2 44	4 15	5 11	6 50	7
4	11 46	0 56	11 39	0 a 42	1 1	2 8	2 23	3 33	5 11	6 9	7 40	7
5	0 a 43	1 43	0 a 24	1 27	1 48	2 56	3 11	4 24	6 8	7 5	8 27	8
6	1 36	2 28	1 9	2 12	2 36	3 44	3 59	5 17	7 6	7 58	9 13	9
7	2 26	3 12	1 54	2 59	3 24	4 31	4 47	6 12	8 4	8 49	9 58	10
8	3 13	3 56	2 38	3 46	4 12	5 18	5 36	7 9	9 0	9 38	10 42	10 4
9	3 58	4 40	3 23	4 34	5 0	6 6	6 28	8 8	9 54	10 26	11 27	11 3
10	4 47	5 25	4 9	5 23	5 48	6 56	7 22	9 7	10 45	11 12	morn	morn
11	5 25	6 11	4 56	6 12	6 37	7 48	8 19	10 5	11 34	11 58	0 13	0 2
12	6 8	6 59	5 44	7 1	7 26	8 42	9 18	11 1	morn	morn	0 59	1
13	6 52	7 48	6 33	7 51	8 16	9 39	10 18	11 55	0 22	0 43	1 46	1 5
14	7 37	8 38	7 23	8 42	9 8	10 39	11 19	morn	1 9	1 29	2 34	2 4
15	8 24	9 29	8 13	9 33	10 3	11 40	morn	0 46	1 55	2 16	3 21	3 2
16	9 12	10 20	9 4	10 26	11 1	morn	0 18	1 35	2 41	3 2	4 8	4 1
17	10 2	11 12	9 56	11 21	morn	0 42	1 14	2 22	3 27	3 50	4 54	4 5
18	10 52	morn	10 48	morn	0 1	1 42	2 6	3 8	4 13	4 38	5 40	5 4
19	11 43	0 4	11 41	0 18	1 3	2 39	2 56	3 54	5 0	5 25	6 27	6 3
20	morn	0 55	morn	1 18	2 5	3 32	3 43	4 39	5 48	6 13	7 14	7 2
21	0 34	1 47	0 35	2 19	3 5	4 22	4 28	5 25	6 36	7 0	8	8 1
22	1 24	2 43	1 30	3 20	4 2	5 9	5 13	6 12	7 25	7 48	8 52	9 1
23	2 14	3 34	2 27	4 19	4 55	5 54	5 57	6 59	8 14	8 38	9 46	10 9
24	3 4	4 30	3 26	5 16	5 45	6 38	6 42	7 47	9 3	9 27	10 42	11 11
25	3 55	5 27	4 25	6 10	6 32	7 21	7 28	8 36	9 52	10 18	11 42	0 a 13
26	4 46	6 24	5 23	7 0	7 18	8 5	8 14	9 25	10 42	11 11	0 a 43	1 14
27	5 39	7 21	6 20	7 48	8 2	8 50	9 1	10 15	11 33	0 a 7	1 4	2 1
28	6 34	8 16	7 14	8 34	8 45	9 36	9 51	11 4	0 a 26	1 52	2 46	3
29	7 31		8 6	9 18	9 29	10 23	10 40	11 53	1 20	2 53	3 45	3 59
30	8 28		8 56	10 2	10 13	11 11	11 29	0 a 44	2 16	3 64	4 40	4 47
31	9 25		9 43		10 58		0 a 18	1 35		4 6		5 33

A TABLE *of the* Seven Stars *fouthing, or Times when they paſs the Meridian.*

	A.	A.	A.	A.	A.	M.	M.	M.	M.	M.	M.	A.
1	8 46	6 34	4 45	2 52	1 1	10 59	8 55	6 50	4 54	3 6	1 11	11 4
7	8 20	6 9	4 23	2 30	0 38	10 34	8 30	6 27	4 33	2 44	0 47	10 38
13	7 54	5 46	4 1	2 8	0 15	10 9	8 5	6 4	4 11	2 22	0 23	10 11
19	7 28	5 23	3 39	1 46	11 51	9 44	7 41	5 42	3 50	2 0	11a57	9 44
25	7 3	4 0	3 17	1 23	11 27	9 19	7 17	5 19	3 28	1 38	11 31	9 17

Uſe of the Tables. To find the Time of High Water.

EXAM. On Jan. 1ſt Moon ſouths at -	8 49 p.m
Add for N. and F. Moon for London -	2 30
Time of High Water at London, Jan. 1	11 19 m.

Ex. 1.) On Jan. 1, Seven Stars ſouths at 8 46 a.
Semidiurnal arc. ſubtract and add - 8 17

Seven Stars riſes Jan. 1ſt Aft. - - - 0 29 a.
Seven Stars ſets next morning, Jan. 2, - 5 3 m.

Ex. 2.) Seven Stars ſouths Jan. 1ſt at - 8 46 a.
Sirius ſouths after the Seven Stars - 3 1

Sirius ſouth Jan. 1ſt afternoon - 11 47 a.
Semidiurnal arc ſubtract and add - 4 37

Sirius riſes Jan. 1ſt afternoon - - 7 10 a.
Sirius ſets Jan. 2d morning - - 4 24m.

Na. of Stars.	ſ. a	ſ. d. a.
Aldebaran	0 40	7 29
Capella	1 26	
Betelgeuſe	2 8	6 41
Sirius	3 1	4 37
Alphord	5 42	5 24
Regulus	6 21	7 11
Upp. point.	7 15	
Virg. ſpike	9 39	5 12
Arcturus	10 29	7 55
Antarus	12 41	3 34
Lyra	14 52	
Atair	16 56	6 46
Fomalhaut	19 8	1 55
Pole ſtar	21 13	
Almach	22 16	

w moon 4 day, 5 night
t Quart. 12 day, 6 mor.
l moon 20 day, 6 morn.
t Quart. 27 day, 7 mor.

D	☿ lat. north	♄ lat. south	♃ lat. north	♂ lat. south	♀ lat. south	☿ lat. south
1	0 41	2 22	1 19	1 5	0 38	2 8
7	0 41	2 21	1 21	1 6	0 50	1 54
13	0 42	2 20	1 22	1 6	1 1	1 15
19	0 42	2 19	1 24	1 6	1 11	0 5
25	0 42	2 18	1 26	1 5	1 18	1 n 34

W D	Festival Days.	Aspects & Weat.	☽ rises	☉ ♒	H ♌	♄ ♈	♃ ♎	♂ ♒	♀ ♒	☿ ♒	☽ ♍	☽ lat. north
S	Circumcis.	♂ ☉ ♀	4 9	11 8	13	0	1	26	11	22	28 6	2 31
B	2 S. af. Chr.	Dark air	5 23	12 9	13	0	1	27	12	23	12 ♐ 41	3 32
M		wi. snow	6 27	13 11	13	0	1	27	14	25	27 14	4 19
T		☽ ☽ ♀	☽ sets	14 12	13	0	1	28	15	27	11 ♑ 41	4 49
W	Old Chr. d.	♂ ♂ ☿	5a25	15 13	13	0	1	29	16	28	25 53	5 1
T	Epiphany	✶ ♄ ☿	6 37	16 14	13	0	1	♒	17	♒	9 ♒ 45	4 54
F		△ ♃ ☿	7 48	17 15	13	0	1	0	19	1	23 13	4 31
S	Lucian	△ ♃ ♂	8 56	18 17	13	0	2	1	20	3	6 ♓ 17	3 55
B	1 S. af. Epi.	♂ ☽ ♄	10 2	19 18	13	0	2	2	21	5	18 57	3 7
M	Plow Mon.	or rain,	11 7	20 19	13	1	2	3	22	6	1 ♈ 17	2 12
T		wi. brisk	Morn	21 20	13	1	2	4	24	8	13 21	1 12
W		gales of	0 10	22 21	13	1	2	4	25	9	25 14	0 9
T	Hil.C.T.b.	wind.	1 11	23 22	13	1	2	5	26	11	7 ♉ 1	0 f 53
F	Ox. T. beg.	☿ H ☿	2 12	24 23	13	1	2	6	27	12	18 50	1 53
S		More	3 10	25 24	13	1	2	7	29	13	0 ♊ 44	2 49
B	2 S. af. Epi.	✶ ♄ ♀	4 7	26 26	13	1	R	8	♒	15	12 48	3 37
M		△ ♃ ♀	4 59	27 27	13	1	2	8	1	16	25 6	4 17
T	Qu.birth d.	Prisca	5 47	28 28	13	1	2	9	2	17	7 ♋ 40	4 44
W		mild.	6 28	29 29	13	1	2	10	4	18	20 31	4 59
T	Fabian. 1re.	♂ ☽ H	☽ ris.	♒ 30	13	1	2	11	5	19	3 ♌ 30	4 57
F	Agnes	Turbul.	6 27	1 31	13	1	2	12	6	20	17 1	4 40
S	Vincent	☿ ♄ ♃	7 39	2 32	13	1	2	12	7	20	0 ♍ 36	4 7
B	3 S. af. Epi.	with	8 53	3 33	13	2	2	13	9	21	14 20	3 10
M	Hil. T. beg.	♂ ☽ ♃	10 8	4 34	13	2	1	14	10	21	28 12	2 18
T	Con. St. Pa.	ain,	11 22	5 35	13	2	1	15	11	R	12 ♎ 8	1 9
W		☿ H ♀	Morn	6 36	12	2	1	15	12	21	26 9	0 n 4
T	Pr.Au. F.b.	or snow	0 37	7 37	12	2	1	16	14	21	10 ♏ 13	1 18
F	1773. 2 ret.	to the	1 51	8 37	12	2	1	17	15	20	24 9	2 27
S		end.	3 1	9 38	12	2	1	18	16	20	8 ♐ 27	3 28
B	4 S. af. Epi	♂ ♂ ☿	4 5	10 39	12	2	1	19	17	19	22 3	4 15
M	K. Ch. I. M	♂ ♀ ☿	5 2	11 40	12	2	1	20	19	18	6 ♑ 41	4 47

D. L beg.	Sun rise	Sun set.	D L ends	leng. of D.	Day inc.	Clock be. ☉	♄ set night	♃ rise night	♂ ris. night	♀ set night	☊ ☋
5 56	8 2	3 58	6 47	7 56	0 6	4 8	11 8	11 6	5 7	3 55	27 17
5 54	7 58	4 2	6 63	4 0	14	6 51	10 46	10 41	5 9	4 4	26 58
5 50	7 52	4 8	6 10	3 16	0 26	9 16	10 21	10 15	5 9	4 17	26 38
5 42	7 44	4 16	6 16	3 32	0 42	11 17	9 58	9 50	5 9	4 32	26 16
5 37	7 35	4 25	6 23	3 50	1 0	12 50	9 35	9 24	5 10	4 46	26 0

New moon 3 day, 6 morn.
Firſt Quar. 11 day, 4 morn.
Full moon 18 day, 8 night
Laſt Quart. 25 day, 3 after.

D	☽ lat. north	♄ lat. ſouth	♃ lat. north	♂ lat. ſouth	♀ lat. ſouth	☿ lat. north
1	0 42	2 16	1 28	1 5	1 24	3 2
7	0 42	2 16	1 29	1 4	1 27	3 3
13	0 42	2 15	1 30	1 3	1 28	2 4
19	0 42	2 14	1 31	1 1	1 26	1 3
25	0 42	2 13	1 32	1 0	1 22	0 1

MD	WD	Feſtival Days.	Aſpects & Weat.	☽ riſes	☉ ♒	H ♌	♃ ♈	♄ ♎	♂ ♒	♀ ♒	☿ ♒	☽ ♍	☽ la non
1	T		☌ ☌ ♀	5 50	12 41	12	2	1	20	20	17	20 40	5
2	W	Pur. or C. d.	☌ ☽ ☿	6 30	13 42	12	2	1	21	21	18	4♒28	4 5
3	T	Bp. Blaiſe	☌ ☉ ☿	☽ ſets	14 43	12	3	1	22	22	15	18 0	4 3
4	F	(3 ret.	☌ ☌ ♀	6a 28	15 44	12	3	1	23	24	14	1♓15	4
5	S	Agatha.	☍ H ☿	7 37	16 44	12	3	1	23	25	12	14 11	3
6	B	5 S. aft Epi.	☌ ☽ ♄	8 43	17 45	12	3	1	24	26	11	26 46	2
7	M		Wind	9 48	18 46	12	3	1	25	27	10	9♈ 4	1
8	T		with	10 51	19 47	12	3	1	26	29	9	21 8	0
9	W	4 return	rain or	11 53	20 47	12	3	1	27	♓	8	3♉ 2	0 4
10	T	Dies Sco. O.	ſnow.	Morn	21 48	12	3	1	27	1	8	14 50	1 5
11	F			0 52	22 49	12	3	0	28	2	7	26 39	2 4
12	S	Hil. T. ends		1 49	23 49	12	3	0	29	4	6	8♊32	3 4
13	B	6 S. aſ. Epi.	O. C. d.	2 44	24 50	12	4	0	♓	5	6	20 39	4 1
14	M	Valentine		3 33	25 50	12	4	0	1	6	6	3♋ 0	4 4
15	T		Seaſon-	4 19	26 51	12	4	0	1	7	D	15 40	5
16	W		☌ ☽ H	4 58	27 51	12	4	0	2	9	6	28 42	5
17	T		ubblewith	5 33	28 52	12	4	0	3	10	6	12♌ 4	4 5
18	F		ſhowers	☽ riſ.	29 52	11	4	0	4	11	6	25 47	4 1
19	S			6a 34	♓ 52	11	4	0	4	12	6	9♍44	3 3
20	B	Septua. Su.	☌ ☽ ♃	7 50	1 53	11	4	0	5	14	7	23 57	2 2
21	M			9 7	2 53	11	4	0	6	15	7	8♎15	1 1
22	T		Cold	10 24	3 53	11	5	♍	7	16	8	22 36	0
23	W	P. Octa. b.	winds.	11 41	4 54	11	5	29	8	17	9	6♍55	1 n
24	T	St. Matt.	P. A. F. b	Morn	5 54	11	5	29	8	19	9	21 10	2 2
25	F			0 52	6 54	11	5	29	9	20	10	5♐18	3 2
26	S		☍ H ☿	1 53	7 54	11	5	29	10	21	11	19 19	4 1
27	B	Sexageſ. S.		2 57	8 55	11	5	29	11	22	12	3♑11	4 5
28	M	Hare-hunt-		3 48	9 55	11	5	29	12	24	13	16 54	5
		[ing ends.											

D	D. L. beg.	Sun riſe	Sun ſet.	D. L. ends	leng. of D.	Day inc.	Clock be. ☉	♄ ſet night	♃ ſets night	♂ ſets night	♀ ſet night	☌ ♎
1	5 29	7 24	13 6	6 31	9 12	1 22	14 4	9 11	8 53	5 14	5 12	25 35
7	5 20	7 14	14 6	6 40	9 33	1 42	14 35	8 49	8 27	5 18	5 29	25 19
13	5 10	7 3	15 7	6 50	9 54	2 4	14 37	8 29	8 1	5 22	5 50	25 0
19	5 0	6 52	5 8	7 0	10 16	2 26	14 11	8 10	7 35	5 25	6 10	24 41
25	4 48	6 40	5 20	7 12	10 40	2 50	13 22	7 52	7 8	5 20	6 30	24 21

New moon 4 day, 8 night
Firſt Quart. 12 day, midni.
Full moon 20 day, 7 morn.
Laſt Quart. 26 day, 11 night

D	☿ lat. north	♄ lat. ſouth	♃ lat. north	♂ lat. ſouth	♀ lat. ſouth	☿ lat. ſouth
1	○ 42	2 13	1 33	○ 58	1 18	○ 23
7	○ 42	2 13	1 34	○ 56	1 10	1 15
13	☽ 42	2 13	1 34	○ 54	1 0	1 52
19	○ 41	2 12	1 35	○ 52	○ 48	2 14
25	☽ 41	2 12	1 35	○ 40	○ 35	2 20

MD	WD	Feſtival Days.	Aſpects & Weat.	☽ riſes.	☉ ♓	☾ ♌	♄ ♈	♃ ♍	♂ ♓	♀ ♓	☿ ♒	☽ ♏	☽ lat. north
1	T	St. David	Varia-	4 29	10 55	11	5	29	12	25	14	○ 26	5 ○
2	W	Chad	☌ ☽ ☿	5 6	11 55	11	5	29	13	26	15	13 46	4 49
3	T	Collop Th.	☍ ♃ ♀	5 36	12 55	11	6	28	14	27	16	26 54	4 11
4	F		☌ ☽ ♂	☽ ſets	13 55	11	6	28	15	29	17	9♓47	3 30
5	S		☌ ☽ ♀	6a30	14 55	11	6	28	15	♈	18	22 26	2 35
6	B	Quinquag.	☌ ☽ ♄	7 35	15 55	11	6	28	16	1	19	4♈50	1 33
7	M	Perpetua	☌ ☉ ♂	8 40	16 55	11	6	28	17	2	21	17 1	○ 28
8	T	Shrove Tu.	eble.	9 42	17 55	11	6	28	18	4	22	29 1	○ 38
9	W	Aſh Wedn.	Cold	10 43	18 55	11	6	28	19	5	23	10♉54	1 41
10	T	C. C. B. A.	☌ ♄ ♀	11 42	19 55	11	6	28	19	6	24	22 42	2 40
11	F		rain.	Morn	20 55	11	7	27	20	7	26	4♊30	3 32
12	S	Gregory M.		○ 37	21 54	11	7	27	21	9	27	16 24	4 15
13	B	1 S. in Lent		1 30	22 54	11	7	27	22	10	28	28 29	4 48
14	M		△ H ♀	2 15	23 54	11	7	27	23	11	♓	10♋48	5 8
15	T		Warm-	2 57	24 53	11	7	27	23	12	1	23 28	5 14
16	W	Ember We.	☌ ☽ H	3 34	25 53	11	7	27	24	14	3	6♌30	5 4
17	T	St. Patrick	☍ ☉ ♃	4 7	26 53	11	7	27	25	15	4	19 57	4 38
18	F	Ed.K.W.S.	☍ ♃ ♂	4 39	27 52	11	7	27	26	16	6	3♍49	3 55
19	S		er, and	5 0	28 52	10	8	26	26	17	7	18 3	2 50
20	B	2 S. in Lent	perhaps	☽ riſ.	29 51	10	8	26	27	18	9	2♎34	1 45
21	M	St. Bened.	thunder	8a10	♈ 51	10	8	26	28	20	10	17 18	○ 25
22	T			9 29	1 50	10	8	26	29	21	12	2♍ 5	on 50
23	W			10 47	2 49	10	8	26	♈	23	14	16 50	2 14
24	T			11 57	3 47	10	8	26	○	23	15	1♐26	3 22
25	F	An. Lad. d.		Morn	4 43	10	8	26	1	25	17	15 49	4 16
26	S			1 0	5 47	10	8	26	2	26	19	29 57	4 54
27	B	3 S. in Lent	High	1 53	6 47	10	9	25	3	27	20	13♑46	5 13
28	M		☍ ♃ ☿	2 37	7 46	10	9	25	3	28	22	27 18	5 15
29	T		☌ ☉ ♄	3 22	8 45	10	9	25	4	♉	24	10♒34	5 0
30	W		△ ☉ H	3 47	9 44	10	9	25	5	1	26	23 33	4 30
31	T		winds.	4 15	10 43	10	9	25	6	2	27	6♓10	3 47

D	D. L. beg.	Sun riſe	Sun ſet.	D. L. ends	leng. of D.	Day inc.	Clock be. ☉	♄ ſet night	♃ riſ. night	♂ riſ. morn	♀ ſet. night	☌ ♏
1	4 41	6 33	5 27	7 19	10 54	3 4	12 38	7 37	6 53	6 43	6 42	24 9
7	4 29	6 21	5 39	7 31	11 18	3 28	11 17	7 20	6 27	6 28	7 2	23 50
13	4 16	6 9	5 51	7 44	11 42	3 52	9 41	7 2	6 0	6 13	7 22	23 33
19	4 3	5 57	6 3	7 57	12 6	4 16	7 56	6 44	5 33	5 59	7 43	23 12
25	3 40	5 45	6 15	8 11	12 30	4 42	6 4	6 25	5 7	5 45	8 3	22 54

New moon 3 day, 1 after.
First Quart. 11 day, 3 after.
Full moon 18 day, 5 after.
Last Quart. 25 day, 8 morn.

D	☿ lat. north	♄ lat. south	♃ lat. north	♂ lat. south	♀ lat. south	☿ lat. south
1	0 41	2 13	1 34	0 46	0 18	2 5
7	0 41	2 13	1 34	0 43	0 2	1 33
13	0 41	2 13	1 33	0 40	0 n 14	0 44
19	0 41	2 13	1 32	0 37	0 31	0 n 18
25	0 41	2 14	1 31	0 33	0 47	1 21

M D	W D	Festival Days.	Aspects & Weat	☽ rises.	☉ ♈	☿ ♌	♄ ♈	♃ ♍	♂ ♈	♀ ♉	☿ ♓	☽ ♓	☽ lat. north
1	F	All Fool's	☌ ☽ ♄	4 40	11 42	10 9	25 7	3 29	18 51			2 53	
2	S		☌ ☽ ☿	5 6	12 42	10 9	25 7	4 ♈	1 ♈ 11			1 52	
3	B	Mid. Sund.	Richard	☽ sets	13 41	10 9	25 8	4 3	13 21			0 47	
4	M	St. Ambrose	☌ ☽ ♀	7a40	14 40	10 10	24 9	7 5	25 23			of 0	
5	T	O. Lady d.	☌ ♄ ♂	8 41	15 39	10 10	24 10	8 7	7 ♉ 17			1 25	
6	W		☌ ♄ ☿	9 40	16 37	10 10	24 10	9 9	19 7			2 26	
7	T	Ca. lat. act	☌ ♂ ☿	10 37	17 36	10 10	24 11	11 11	☉ ♊ 55			3 21	
8	F		Wind,	11 30	18 35	10 10	24 12	12 13	12 44			4 7	
9	S		rain,	Morn	19 34	10 10	24 13	13 15	24 30			4 43	
10	B	5 S. in Lent	and	0 18	20 33	10 10	24 13	14 17	6 ♋ 42			5 7	
11	M		thunder	1 1	21 32	10 10	24 14	15 19	19 0			5 13	
12	T		☌ ☽ ♅	1 30	22 30	10 11	24 15	17 21	1 ♌ 35			5 13	
13	W		☌ ☉ ☿	2 13	23 29	10 11	23 16	18 23	14 32			4 53	
14	T		Pleasant	2 44	24 28	10 11	23 16	19 25	27 54			4 17	
15	F	Ca. T. ends	☌ ☽ ♃	3 14	25 26	10 11	23 17	20 27	11 ♍ 43			3 25	
16	S	Ox. T. ends	showers	3 42	26 25	10 11	23 18	22 29	25 58			2 19	
17	B	6 S. L. P. Su.	△ ♃ ♀	4 10	27 23	10 11	23 19	23 8	10 ♎ 37			1 2	
18	M		of rain.	☽ rise.	28 22	D 11	23 20	24 3	25 33			on 2	
19	T	Alphage		8a30	29 20	10 11	23 20	25 6	10 ♍ 30			1 42	
20	W		Windy	9 47	♉ 19	10 12	23 21	26 8	25 46			2 57	
21	T	Maunday	□ H ☿	10 56	1 17	10 12	23 22	28 10	10 ♐ 45			3 50	
22	F	Good Frid.		11 54	2 16	10 12	23 23	29 12	25 28			4 44	
23	S	St. George	and	Morn	3 14	10 12	23 23	♊ 14	9 ♑ 50			5 10	
24	B	Easter day		0 43	4 12	10 12	23 24	1 16	23 4			5 17	
25	M	St. Mark. P.	Mary b	1 24	5 11	10 12	22 25	3 18	7 ♒ 21			5 6	
26	T	Easter Tue.	1776.	1 57	6 9	10 12	22 26	4 20	20 31			4 38	
27	W	After We.	△ ♃ ☿	2 25	7 7	10 12	22 26	5 22	3 ♓ 20			3 58	
28	T		trou-	2 52	8 5	10 12	22 27	6 24	15 52			3 7	
29	F		bled air.	3 17	9 3	10 13	22 28	7 25	28 9			2 8	
30	S		□ ☉ H	3 39	10 2	10 13	22 29	9 27	10 ♈ 11			1 4	

D	D. L. beg.	Sun rise	Sun set.	D. L. ends	Leng. of D.	Day inc.	Clock be. ☉	♄ rises morn	♃ sets night	♂ rises morn	♀ sets night	☊ ☋
1	3 31	5 31	6 29	8 29	12 58	5 8	3 55	3 41	10 50	5 28	3 28	22 31
7	3 15	5 10	6 41	8 45	13 22	5 32	2 8	5 20	10 34	5 14	3 50	22 12
13	2 59	5 8	6 52	9 1	13 42	5 52	0 20	4 59	10 10	5 0	9 11	21 53
19	2 43	4 57	7 3	9 17	14 6	6 10	after	4 37	9 41	4 45	9 32	21 33
25	2 26	4 46	7 14	9 34	14 28	6 38	2 13	4 16	9 21	4 31	0 52	21 14

New moon 3 day, 5 morn.
First Quart. 11 day, 7 mor.
Full moon 18 day, 1 morn.
Last Quart. 24 day, 7 night

D	☿ lat. north	☿ lat. south	♃ lat. north	♃ lat. south	♀ lat. north	♀ lat. north
1	☊ 40	2 15	1 31	☊ 30	1 3	2 9
7	☊ 40	2 15	1 3[illegible]	☊ 26	1 18	2 30
13	☊ 40	2 16	1 28	☊ 23	1 31	2 18
19	☊ 40	2 17	1 27	☊ 19	1 43	1 31
25	☊ 40	2 18	1 26	☊ 15	1 52	☊ 11

D	WD	Festival Days.	Aspects & Weat.	☽ rites.	☉ ♉	☿ ♌	♄ ♈	♃ ♍	♂ ♈	♀ ♊	♅ ♉	☽ ♈	☽ lat. south
1	B	1 S. af. East.	✶ H ♀	4 5	11 0	10	13	22	29	10	20	22 14	☊ 2
2	M	[St. P. & J.	(☌ ☽ ♂	4 28	11 53	10	13	22	♉	11	♊	4 ♉ 7	1 7
3	T	In. of the C.	✶ ♄ ♀	☽ sets	12 56	10	13	22	1	12	2	15 57	2 9
4	W	O. & C. T. b.	☌ ☽ ♅	8a37	13 54	10	13	22	2	13	4	27 45	3 5
5	T		☌ ☽ ♀	9 31	14 52	10	13	22	2	15	5	9 ♊ 35	3 53
6	F	John P. Lat	Cooling	10 21	15 50	10	13	22	3	16	6	21 27	4 32
7	S		Showers	11 5	16 48	10	14	22	4	17	8	3 ♋ 25	4 58
8	B	2 S. af. East.		11 43	17 46	10	14	22	5	18	9	15 32	5 12
9	M		✶ H ♅	Morn	18 44	10	14	22	5	19	10	27 50	5 12
10	T	1 return	☌ ☽ H	0 [illegible]	19 42	10	14	22	6	21	11	10 ♌ 24	4 57
11	W	East. T. be.	Pleasant	0 50	20 40	10	14	22	7	22	12	23 17	4 27
12	T	Old May d.	△ ☉ ♃	1 10	21 38	10	14	22	8	23	13	☾ ♍ 31	3 42
13	F		☌ ☽ ♃	1 46	22 36	10	14	22	8	24	14	20 11	2 43
14	S		weather	2 13	23 33	10	14	22	9	25	15	4 ♎ 17	1 33
15	B	3 S. af. East.	Some	2 41	24 31	10	14	22	10	27	16	18 40	☊ 15
16	M	2 return	☐ H ♀	3 14	25 29	11	15	22	10	28	16	3 ♍ 42	In 6
17	T		showers	3 51	26 26	11	15	22	11	29	17	18 52	2 24
18	W		and per-	☽ rit.	27 24	11	15	22	12	♋	18	4 ♐ 7	3 32
19	T	Q. Char. b.	haps	9a42	28 22	11	15	☽	13	1	18	19 19	4 24
20	F	1744.	thunder	10 37	29 19	11	15	22	13	3	18	4 ♑ 17	4 57
21	S			11 23	♊ 17	11	15	22	14	4	19	18 53	5 11
22	B	4 S. af. East.	P. Eli. b.	Morn	1 15	11	15	22	15	5	19	3 ♒ 3	5 4
23	M	3 return	Cool clou	0 0	2 12	11	15	22	16	6	20	16 43	4 41
24	T		cooled air	0 30	3 10	11	15	22	16	7	♑	29 50	4 3
25	W		with	0 57	4 7	11	16	22	17	8	19	12 ♓ 43	3 13
26	T	Augustine	cooling	1 22	5 5	11	16	22	18	10	19	25 10	2 16
27	F	Ven. Bede	☌ ☽ ♄	1 46	6 2	11	16	22	18	11	19	7 ♈ 21	1 14
28	S		rain.	2 10	7 0	11	16	22	19	12	18	19 20	0 10
29	B	5 S. a. E. K.	C. II. r.	2 35	7 58	11	16	22	20	13	18	1 ♉ 12	☌ 54
30	M	4 return	□ ♄ ♀	3 2	8 55	11	16	22	21	14	18	13 0	1 56
31	T		△ ♃ ♂	3 32	9 53	11	16	22	21	16	17	24 48	2 52

D	D. L. beg.	Sun rise	Sun set.	D. L. ends	Leng. of D.	Day inc.	Clock aft. ☉	♄ rn. morn	♃ ou night	♂ rn. morn	♀ ter night	☊ ☋
1	2 3	4 34	7 26	9 57	14 52	7 2	3 8	3 54	8 58	4 16	10 12	20 55
7	1 41	4 24	7 36	10 19	15 12	7 22	3 43	3 33	8 34	4 1	10 28	20 36
13	1 14	4 15	7 45	10 46	15 30	7 40	3 50	3 11	8 10	3 46	10 41	20 17
19	0 39	4 6	7 54	11 21	15 48	7 58	3 54	2 40	7 46	3 31	10 50	19 58
26	all	3 58	8 2	Day	16 4	8 14	3 30	2 26	7 22	3 16	10 57	10 30

New moon 1 day 9 night
First Quart. 9 day, 5 after.
Full moon 16 day, 8 mor.
Last Quart. 23 day, 8 mor.

D	☿ lat. north	♄ lat. south	♃ lat. north	♂ lat. south	♀ lat. north	☿ lat. south
1	☊ 39	2 20	1 24	☊ 10	1 59	1 47
7	☊ 39	2 21	1 22	☊ 7	2 3	3 20
13	☊ 39	2 22	1 21	☊ 3	2 8	4 14
19	☊ 39	2 24	1 20	☊ n 1	1 59	4 21
25	☊ 39	2 25	1 18	☊ 6	1 52	3 46

M D	W D	Festival Days.	Aspects & Weat.	☽ sets.	☉ ♊	H ♌	♄ ♈	♃ ♍	♂ ♉	♀ ♋	☿ ♊	☽ ♊	☽ lat south
1	W	Nicomede	✱ ☉ H	☽ sets	10 50	11	17	22	22	17	17	6 38	3 42
2	T	Ascension	✱ ♄ ☿	8a17	11 47	11	17	22	23	18	16	18 32	4 19
3	F	5 ret. C. ch.	Showers	9 0	12 45	11	17	22	24	19	16	0♋31	4 47
4	S	K. Geo. III.	☌ ☽ ♀	9 44	13 42	11	17	22	24	20	15	12 38	5 3
5	B	S. aft. asc.	☌ ☉ ☿	10 20	14 40	11	17	22	25	21	15	24 53	5 5
6	M	E. T. end C.	☌ ☽ H	10 52	15 37	11	17	22	26	23	14	7♌19	4 53
7	T	(T. d. m.	✱ ☉ ♄	11 21	16 34	11	17	22	26	24	14	19 57	4 26
8	W		1 d	11 47	17 32	11	17	22	27	25	13	2♍51	3 43
9	T	Oxf. T. ends	✱ ☽ ♃	Morn	18 29	11	17	22	28	26	13	16 2	2 51
10	F	Prs. Am. b.	windy.	0 13	19 26	11	17	22	29	27	12	29 35	1 47
11	S	St. Barnab.	✱ ♄ ☿	0 40	20 24	11	17	22	29	28	12	13♎30	0 33
12	B	Whit Sund.	✱ ♂ ♀	1 10	21 21	11	17	23	♊	♌	11	27 48	on 4
13	M	Whit Mon.		1 42	22 18	12	17	23	1	1	11	12♍28	1 57
14	T	Whit Tues.	Some	2 21	23 16	12	17	23	1	2	11	27 26	3 6
15	W	Ember We.	showers	3 8	24 13	12	17	23	2	3	11	12♐33	4 2
16	T			☽ ris.	25 10	12	17	23	3	4	10	27 42	4 44
17	F	St. Alban	and	9a10	26 7	12	17	23	4	5	D	12♑41	5 1
18	S			9 50	27 5	12	17	23	4	7	10	27 22	5 0
19	B	Trin. Sun.		10 27	28 2	12	17	23	5	8	11	11♒27	4 41
20	M	1 ret. Tr. E.	K. W. S.	10 56	28 59	12	18	23	6	9	11	25 23	4 5
21	T	Longest d.	thunder	11 22	29 56	12	18	23	6	10	11	8♓41	3 17
22	W	Oxf. Term	begins	11 47	♋ 53	12	18	23	7	11	11	21 31	2 21
23	T	[T. beg.	✱ ♀ ☿	Morn	1 51	12	18	24	8	12	12	3♈59	1 19
24	F	St. John B.	M Siday	0 10	2 48	12	18	24	8	13	12	16 9	0 15
25	S	St. J. Col. el.		0 35	3 45	12	18	24	9	15	13	18 7	of 4
26	B	1 S. aft Tri.	Cooling	1 0	4 42	12	18	24	10	16	14	9♉57	1 49
27	M	2 return	rain.	1 30	5 39	12	18	24	11	17	14	21 45	2 41
28	T		△ ♄ ♀	2 3	6 37	12	18	24	11	18	15	3♊34	3 33
29	W	St. Pe. & P.	☌ H ♀	2 41	7 34	12	18	24	12	19	15	15 28	4 12
30	T	Buck-hunt.	✱ H ♂	3 25	8 31	12	18	24	13	20	17	27 28	4 41
		[Dog d. b.											

D	D. L. beg.	Sun rise	Sun set.	D. L. ends	leng. of D.	Day inc.	Clock aft. ☉	♄ rii. morn	♃ let morn	♂ rii. morn	♀ ie nigh	♎
1		3 50	8 10		16 20	8 30	2 38	1 50	1 20	3 0	11 1	19 17
7		3 46	8 14		16 28	8 38	1 37	1 35	0 56	2 46	11 0	18 58
13	all	3 43	8 17	Day	16 34	8 44	0 27	1 11	0 32	2 32	10 54	18 36
19		3 41	8 19		16 38	8 48	ob 49	0 47	0 7	2 18	10 46	18 20
25		3 42	8 18		16 36	le. 2	2 6	0 23	11 n 41	2 5	10 36	18 1

New moon 1 day, at noon
First Quart. 8 day, at midn.
Full moon 15 day, 3 aft.
Last Quart. 22 day, 11 nig.
New moon 31 day, 1 morn.

D	☿ lat. north	♄ lat. south	♃ lat. north	♂ lat. north	♀ lat. north	☿ lat. south
1	☌ 39	2 27	1 16	☌ 10	1 41	2 48
7	☌ 39	2 28	1 15	☌ 14	1 26	1 33
13	☌ 39	2 30	1 14	☌ 18	1 7	☌ 15
19	☌ 39	2 32	1 13	☌ 22	☌ 44	☌n 51
25	☌ 39	2 33	1 12	☌ 26	☌ 16	1 32

MD	WD	Festival Days.	Aſpects &Weat.	☽ ſets.	☉ ♋	☿ ♌	♀ ♌	♂ ♍	♃ ♎	♄ ♑	☽ ♐	☽ lat ſouth
1	F		✶ ♄ ☿	☽ ſets	9 28	12	18	24	13	21	18	9 37	4 57
2	S	Viſit V. M.	Windy	8a17	10 26	12	18	24	14	22	19	21 50	5 0
3		2 S. aſt. Tri.	with	8 50	11 23	13	18	25	15	24	20	4♌25	4 48
4	M	3 return	St. Mic.	9 20	12 20	13	18	25	15	25	22	17 5	4 22
5	T	Cam. Com.	ſhowers	9 47	13 17	13	18	25	16	26	23	29 56	3 43
6	W		☌ ☽ ♃	10 14	14 15	13	18	25	17	28	24	12♍50	2 51
7	T	Th. a Beck.	□ ♃ ☿	10 40	15 12	13	18	25	17	27	26	26 16	1 49
8	F	Cam. T. en.	✶ ♄ ♂	11 6	16 9	13	18	25	18	29	27	9♎49	0 40
9	S		and	11 37	17 6	13	19	25	19	♍	22	23 38	0n33
10	B	3 S. aſt. Tri.	thunder	Morn	18 3	13	19	25	20	1	♋	7♍45	1 46
11	M	Oxford Act	✶ ♀ ☿	0 13	19 1	13	19	26	20	2	2	22 9	2 53
12	T	{4 ret.		0 54	19 53	13	19	26	21	4	4	6♐47	3 59
13	W			1 43	20 55	13	19	26	22	5	6	21 35	4 32
14	T		Showers	2 41	21 52	13	19	26	22	6	8	6♑20	4 56
15	F	Swithin	of rain.	☽ rii.	22 49	13	19	26	23	7	9	21 11	5 0
16	S	Oxf. T. end		8 17	23 47	13	19	26	24	8	11	5♒42	4 44
17	B	S. aſt. Tr.	Hail	8 51	24 44	13	19	26	24	9	13	19 51	4 12
18	M		and	9 21	25 41	13	19	27	25	10	15	3♓36	3 25
19	T		✶ ☉ ♃	9 50	26 38	13	19	27	26	11	17	16 53	2 28
20	W	Margaret	□ ♄ ♂	10 10	27 36	14	19	27	26	12	19	29 4	1 26
21	T		□ ♃ ♀	10 34	28 33	14	19	27	27	13	22	12♈15	0 21
22	F	Magdalen	☌ ☽ ♄	11 1	29 30	14	19	27	28	14	24	24 27	0s 44
23	S		✶ ♃ ☿	11 28	♌ 28	14	19	27	28	15	26	6♉26	1 40
24	B	5 S. aſt. Tr.	M. C. e..	Morn	1 25	14	19	28	29	16	28	18 17	2 44
25	M	St. James	thunder	0 1	2 22	14	19	28	♎	17	♌	0♊ 7	3 31
26	T	St. Ann	ſultry	0 36	3 20	14	19	28	0	18	2	11 58	4 11
27	W		☌ ☉ ☿	1 20	4 17	14	19	28	1	20	4	23 57	4 43
28	T			2 7	5 14	14	19	28	2	21	6	6♋ 5	4 58
29	F		rain.	3 3	6 12	14	19	28	2	22	8	18 25	5 2
30	S		☌ ☽ ☿	4 1	7 9	14	19	29	3	23	10	♌♌57	4 51
31	B	6 S. aſt. Tr.	☌ ☽ ♅	☽ ſets	8 7	14	♑	29	4	24	12	13 43	4 20

D	D. L. beg.	Sun riſe	Sun ſet.	D. L. ends	leng. of D.	Day dec.	Clock be. ☉	♄ rii night	♃ ſet night	♂ rii. mor.	♀ ſet night	♋ ♎
1		3 43	8 17		16 34	0 4	3 20	11 59	11 19	1 55	10 25	17 41
7	all	3 47	8 13	Day	16 26	0 12	4 24	11 35	10 55	1 43	10 11	17 23
13		3 52	8 8		16 16	0 22	5 15	11 11	10 34	1 34	9 56	17 5
19		3 59	8 1		16 2	0 36	5 48	10 47	10 11	1 26	9 41	16 45
25	0 47	4 7	7 53	11 13	15 46	0 52	6 3	10 24	9 48	1 16	9 25	16 25

First Quar. 7 day, 5 morn.
Full moon 13 day, midni.
Last Quart. 21 day, 5 after.
New moon 29 day, 1 after.

D	☿ lat. north	♄ lat. south	♃ lat. north	♂ lat. north	♀ lat. south	☿ lat. north
1	☊ 39	2 35	1 11	☊ 31	☊ 20	1 46
7	☊ 39	2 37	1 11	☊ 35	☊ 55	1 33
13	☊ 39	2 38	1 10	☊ 39	1 34	1 3
19	☊ 39	2 40	1 9	☊ 43	2 11	☊ 21
25	☊ 30	2 41	1 9	☊ 48	3 1	☊ ♌ 28

M D	W D	Festival Days.	Aspects & Weat.	☽ sets.	☉ ♌	☿ ♌	♄ ♈	♃ ♍	♂ ♎	♀ ♍	☿ ♌	☽ ♌	☽ lat. south
1	M	Laminas	☌ ☿ ☿	7a51	9 4	14	19	29	4	25	14	26 42	3 46
2	T		Brisk	8 18	10 2	14	19	29	5	26	16	9♍52	2 54
3	W		☌ ☽ ♀	8 43	10 59	14	19	29	6	27	18	23 14	1 52
4	T		gales of	9 12	11 57	14	19	29	6	28	20	6♎46	0 42
5	F		(☌ ♃ ♀	9 41	12 54	15	19	♎	7	29	22	20 29	on31
6	S	Transfigur.	☌ ☉ ☿	10 15	13 52	15	19	○	8	♎	24	4♍22	1 43
7	B	7 S. af. Tri.	N. Jesus	10 53	14 49	15	19	○	8	1	26	18 25	2 50
8	M		wind &	11 38	15 47	15	19	○	9	2	28	2♐38	3 47
9	T		ernaps	Morn	16 44	15	19	○	10	3	♍	16 58	4 31
10	W	St. Lawren.	D. day e.	○ 32	17 42	15	19	1	10	4	1	1♑24	4 58
11	T	Prs. Bru. b.	△ ☉ ♄	1 34	18 40	15	19	1	11	5	3	15 49	5 5
12	F	Pr. Wales b.	O. Lam.	2 43	19 37	15	19	1	12	5	5	○♒ 0	4 54
13	S	[1762.	thunder	☽ ris.	20 35	15	19	1	12	6	7	14 18	4 25
14	B	8 S. af. Tri.		7a21	21 33	15	19	1	13	7	8	28 10	3 40
15	M			7 48	22 30	15	19	1	14	8	10	11♓42	2 44
16	T	Du. York b.		8 14	23 28	15	19	2	14	9	12	24 52	1 40
17	W		☌ ☽ ♄	8 39	24 26	15	19	2	15	10	13	7♈40	○ 33
18	T		✶ ☌ ☿	9 6	25 23	15	19	2	15	11	15	20 9	of 34
19	F		Showers	9 34	26 21	15	19	2	16	12	16	2♉21	1 39
20	S		with	10 4	27 19	15	19	2	17	13	18	14 21	2 38
21	B	9 S. af. Tri.	D. Cl. b.	10 39	28 17	16	19	3	17	14	20	26 14	3 29
22	M		□ ♄ ☌	11 19	29 15	16	19	3	18	15	21	8♊ 5	4 12
23	T		✶ H ♀	Morn	♍ 13	16	18	3	19	15	22	19 59	4 43
24	W	St. Barthol.	thunder	○ 3	1 10	16	18	3	19	16	24	2♋ ○	5 3
25	T		☌ ☽ ☌	○ 55	2 8	16	18	3	20	17	25	14 13	5 10
26	F		☌ ♄ ♀	1 52	3 6	16	18	4	21	18	27	26 40	5 2
27	S		☌ ☽ H	2 56	4 4	16	18	4	21	19	28	9♌24	4 39
28	B	10 S. af Tr.	St. Aug.	4 2	5 3	16	18	4	22	19	♎	22 25	4 1
29	M	St. John Ba.	and hail	☽ sets	6 1	16	18	4	23	20	1	5♍44	3 10
30	T	[beh.		6a53	6 59	16	18	4	23	21	2	19 17	2 6
31	W		☌ ☽ ☿	7 22	7 57	16	18	5	24	22	3	3♎ 3	○ 55

D. L. beg.	Sun rise	Sun set.	D. L. ends	leng. of D.	Day dec.	Clock be. ☉	♄ ris night	♃ set night	♂ ris morn	♀ set night	☌ ♎
1 21	4 17	7 43	10 39	15 26	1 12	5 54	9 57	9 22	1 11	9 8	16 3
1 44	4 27	7 33	10 16	15 6	1 32	5 22	9 34	9 1	1 7	8 50	15 44
2 5	4 37	7 23	9 55	14 46	1 52	4 20	9 11	8 40	1 3	8 33	15 25
2 25	4 48	7 12	9 35	14 24	2 14	3 17	8 49	8 20	1 0	8 17	15 6
2 45	5 0	7 0	9 15	14 0	2 38	1 47	8 27	7 59	○ 57	8 2	14 47

First Quart. 5 day, 11 mor.
Full moon 12 day, 11 mor.
Last Quart. 20 day, 11 mo.
New moon 27 day, midni.

D	☿ lat. north	♄ lat. south	♅ lat. north	♂ lat. north	♀ lat. south	☿ lat. south
1	0 39	2 43	1 8	0 52	3 51	1 29
7	0 39	2 44	1 8	0 57	4 42	2 21
13	0 39	2 45	1 7	1 1	5 31	3 8
19	0 39	2 46	1 7	1 5	6 17	3 41
25	0 39	2 47	1 7	1 10	6 58	3 45

M D	W D	Festival Days.	Aſpects & Weat.	☽ ſets.	☉ ♍	☿ ♎	♄ ♈	♅ ♒	♂ ♋	♀ ♒	☿ ♎	☽ ♒	☽ lat. north
1	T	Giles	☌ ♅ ☿	7 52	8 55	16	18	5	24	22	5	16 59	0 21
2	F	Lond.burnt	(☌ ☽ ♀	8 25	9 53	16	18	5	25	23	6	1♍ 3	1 36
3	S	[1666	Windy	9 1	10 51	16	18	5	26	24	7	15 11	2 46
4	B	11 S. af. Tr.	at the	9 44	11 50	16	18	5	26	25	8	29 22	3 46
5	M		begin-	10 34	12 48	16	18	6	27	25	9	13♐34	4 33
6	T		ning.	11 33	13 46	16	18	6	28	26	10	27 44	5 2
7	W	Enurchus		Morn	14 44	17	18	6	28	27	11	11♑51	5 13
8	T	Na.B.V.M.		0 37	15 43	17	18	6	29	27	12	25 52	5 6
9	F			1 48	16 41	17	18	6	29	28	13	9♒45	4 40
10	S			3 0	17 40	17	18	7	♌	28	14	23 26	3 59
11	B	12 S.af.Tri.	Showers	4 11	18 38	17	18	7	1	29	15	6♓53	3 5
12	M		and	☽ riſ.	19 36	17	17	7	1	29	16	20 5	2 2
13	T		✶ H ☿	6a40	20 35	17	17	7	2	♍	17	3♈ 0	0 54
14	W	Holy Croſs	☌ ♄ ☿	7 16	21 33	17	17	8	3	0	17	15 38	of 15
15	T	Buck-hu. e.	(☌ ☽ ♄	7 43	22 32	17	17	8	3	1	18	28 1	1 23
16	F		windy.	8 13	23 30	17	17	8	4	1	19	10♉10	2 25
17	S	Lambert	△ H ♄	8 46	24 29	17	17	8	4	2	19	22 10	3 20
18	B	13 S.af.Tri.		9 23	25 28	17	17	8	5	2	20	4♊ 3	4 6
19	M			10 6	26 26	17	17	9	6	2	20	15 54	4 42
20	T			10 54	27 25	17	17	9	6	3	20	27 48	5 5
21	W	St. Matth.	Em. we.	11 45	28 24	17	17	9	7	3	℞	9♋49	5 16
22	T	K. G. III. c.		Morn	29 23	17	17	9	7	3	20	22 2	5 12
23	F	[1761	♂ ☽ ♂	0 48	♎ 21	17	17	9	8	4	20	4♌31	4 54
24	S		☌ ☽ H	1 52	1 20	17	17	10	9	4	20	17 19	4 21
25	B	14 S. af. Tr.	Briſk	3 2	2 19	17	17	10	9	4	20	0♍29	3 34
26	M	St. Cyprian	✶ ♅ ♂	4 10	3 18	17	16	10	10	4	19	14 1	2 33
27	T		wind	☽ ſets	4 17	18	16	10	11	4	18	27 53	1 22
28	W	Sh. L. ſwor.	✶ H ☿	6a 0	5 16	18	16	10	11	℞	18	12♎ 3	0 4
29	T	St. Mi. Prs.	Ch. A. b.	6 31	6 15	18	16	11	12	4	17	26 27	1n1
30	F	St. Jerome	Hare-h. b.	with rain	7 9	7 14	18	16	11	12	4	16	10♍58	2 30

D	D. L beg.	Sun riſe	Sun ſet.	D.L. ends	leng. of D.	Day dec.	Clock aft. ☉	♄ riſ. night	♅ ſets night	♂ riſ. morn	♀ ſet night	☌ ♎
1	3 5	5 13	6 47	8 55	13 34	3 4	0 15	8 0	7 36	0 56	7 34	14 25
7	3 20	5 24	6 36	8 40	13 12	3 26	2 11	7 39	7 16	0 54	7 15	14 5
13	3 35	5 35	6 25	8 25	12 50	3 48	4 15	7 17	6 57	0 53	6 54	13 46
19	3 49	5 47	6 13	8 11	12 26	4 12	6 22	6 55	6 37	0 52	6 32	13 27
25	4 3	5 59	6 1	7 57	12 2	4 36	8 26	6 33	6 18	0 52	6 7	13 8

First Quart. 4 day, 5 night
Full moon 12 day, 2 morn.
Last Quart. 20 day, 6 mor.
New moon 27 day, 10 mo.

D	H lat. north	♄ lat. south	♃ lat. north	♂ lat. north	♀ lat. south	☿ lat. south
1	☉ 40	2 47	1 7	1 15	7 28	2 54
7	☉ 40	2 47	1 7	1 19	7 41	1 5
13	☉ 40	2 47	1 7	1 23	7 29	☉ n47
19	☉ 40	2 47	1 7	1 28	6 50	1 52
25	☉ 40	2 46	1 7	1 33	5 38	2 6

M D	W D	Festival Days.	Aspects & Weat.	☽ sets.	☉ ♎	H ♌	♄ ♈	♃ ♎	♂ ♌	♀ ♍	☿ ♎	☽ ♍	☽ lat. north
1	S	Remigius	Windy	7 5c	8 13	18	16	11	13	4	15	25 32	3 36
2	B	15 S. aft. T.	✱ ♂ ☿	8 41	9 13	18	16	11	14	4	14	10 ♐ 2	4 27
3	M		with	9 38	10 12	18	16	12	14	4	13	24 24	5 1
4	T		☌ ☉ ☿	10 4c	11 11	18	16	12	15	3	11	8♑36	5 17
5	W		△ ♄ ♂	11 48	12 10	18	16	12	15	3	10	22 35	5 13
6	T	Faith	showers	Morn	13 9	18	16	12	16	3	c	6♒20	4 51
7	F			0 58	14 9	18	16	12	16	3	8	19 51	4 14
8	S		☍ ☉ ♄	2 8	15 8	18	15	13	17	2	7	3♓ 7	3 23
9	B	16 S. aft. T.	☌ H ♂	3 17	16 7	18	15	13	18	2	6	16 9	2 23
10	M	Ox. & Cam.	of rain	4 22	17 7	18	15	13	18	1	6	28 58	1 16
11	T	[T. be.	✱ ☉ H	5 34	18 6	18	15	13	19	1	5	11♈34	0 7
12	W		☌ ☽ ♄	☽ rif.	19 6	18	15	14	19	1	5	23 58	1 f 1
13	T	Tr. K. Edw.		6a22	20 5	18	15	14	20	0	D	6♉11	2 6
14	F		and va-	6 54	21 5	18	15	14	21	♎	5	18 15	3 4
15	S		riable	7 28	22 4	18	15	14	21	29	5	o♊12	3 53
16	B	17 S. aft. T.		8 10	23 4	18	15	14	22	28	c	12 4	4 32
17	M	Etheldred	☍ ♄ ♃	8 5c	24 3	18	15	15	22	28	c	23 55	5 0
18	T	St. Luke	weather	9 4c	25 3	18	15	15	23	27	7	5♋47	5 14
19	W	St. Fridiswi.	☌ ☉ ♀	10 43	26 3	18	15	15	25	27	8	17 47	5 15
20	T		all the	11 43	27 3	18	15	15	24	26	9	29 57	5 2
21	F		✱ ♂ ♀	Morn	28 2	19	14	15	25	25	10	12♌22	4 35
22	S		☌ ☽ ♁	0 4c	29 2	19	14	16	25	25	11	25 7	3 54
23	B	18 S. aft. T.	month	1 58	♍ 2	19	14	16	26	24	12	8♍16	3 0
24	M		☍ ♄ ☿	3 8	1 2	19	14	16	26	24	14	21 50	1 53
25	T	K. G. III. ac.	☌ ☽ ♃	4 22	2 2	19	14	16	27	23	15	5♎50	0 30
26	W	K. G. III. pr.	☌ ☽ ♀	5 38	3 2	19	14	17	27	22	17	20 14	on41
27	T		✱ H ☿	☽ sets	4 2	19	14	17	28	22	18	4♍58	1 59
28	F	St. Sim. & Ju	☌ ♀ ☿	5a48	5 2	19	14	17	29	21	20	19 55	3 10
29	S			6 3c	6 2	19	14	17	29	21	21	4♐56	4 9
30	B	19 S. aft. Tr.		7 32	7 2	19	14	17	♑	21	23	19 52	4 50
31	M			8 35	8 2	19	14	18	0	20	24	4♑35	5 11

D	D. L. beg.	Sun rise	Sun sets	D. L. ends	leng. of D.	Day dec.	Clock aft. ☉	♄ fou night	♃ rif morn	♂ rif morn	♀ fet night	☌ ♎
1	4 15	6 11	5 49	7 45	11 38	5 c	10 23	12 31	6 25	☽ 51	5 4c	12 4c
7	4 28	6 23	5 37	7 32	11 14	5 24	12 10	12 8	6 9	☽ 4c	5 16	12 3c
13	4 41	6 35	5 25	7 19	10 5c	5 48	13 43	11 44	5 53	☽ 47	4 50	12 11
19	4 54	6 4c	5 14	7 8	10 28	6 10	14 57	11 20	5 38	☽ 44	4 22	11 52
25	5 2	6 57	5 3	6 58	10 c	6 32	15 48	10 55	5 22	☽ 41	rises	11 33

	D	☽ lat. north	♄ lat. south	♃ lat. north	♂ lat. north	♀ lat. south	☿ lat. north
t Quart. 3 day, 1 morn.	1	○ 41	2 46	1 8	1 38	3 57	1 45
l moon 10 day, 7 at nig.	7	○ 41	2 45	1 8	1 43	2 28	1 11
t Quart. 18 day, 11 nig.	13	○ 41	2 44	1 8	1 48	1 5	○ 32
ew moon 25 day, 9 night	19	○ 41	2 42	1 9	1 54	○ n (	○ f ○
	25	○ 41	2 41	1 10	1 59	1 4	○ 47

W D	Festival Days.	Aspects & Weat.	☽ sets.	☉ ♏	H ♌	♄ ♈	♃ ♎	♂ ♍	♀ ♎	☿ ♎	☽ ♑	☽ lat. north
1 T	All Saints		9 43	9 2	19	14	18	1	20	26	19 c	5 12
2 W	All Souls	Pr. E. b.	10 53	10 3	19	14	18	1	20	27	3 ♒ 4	4 54
3 T	1 return	Col. El.	Morn	11 3	19	14	18	2	19	29	16 45	4 20
4 F	[Ps.So.b.	✱ H ♀	○ 3	12 3	19	13	18	2	19	♏	○ ♓ 5	3 32
5 S	Pow. Plot	Rain	1 13	13 3	19	13	19	3	19	2	13 5	2 35
6 B	20 S. aft. T.	Leonar.	2 21	14 3	19	13	19	3	19	4	25 4	1 31
7 M	[M. T. b.	☌ ☽ ♄	3 27	15 4	19	13	19	4	19	(	8 ♈ 18	0 24
8 T	Prs. A. S. b.	about	4 33	16 4	19	13	19	5	19	7	20 37	○ 44
9 W	L.M.D.Lo.		5 37	17 4	19	13	19	5	D	9	2 ♉ 47	1 48
10 T		□ ☉ H	☽ rit.	18 5	19	13	20	(	19	10	14 50	2 46
11 F	St. Martin	these	5a2(	19 5	19	13	20	(	19	12	26 47	3 37
12 S	2 return	days.	6 7	20 (	19	13	20	7	19	14	8 ♊ 41	4 18
13 B	21 S. aft. T.	Britius	6 51	21 (	19	13	20	7	19	15	20 32	4 48
14 M		✱ H ♀	7 40	22 7	19	13	20	8	19	17	2 ♋ 24	5 5
15 T	Machutus	□ H ♄	8 33	23 7	19	13	21	8	19	18	14 17	5 9
16 W		Windy	9 20	24 8	19	13	21	9	19	20	26 16	5 0
17 T	H.Bp.Linc.	☌ ☽ H	10 31	25 8	19	13	21	9	20	22	8 ♌ 24	4 37
18 F	3 return	with	11 36	26 9	19	13	21	10	20	23	20 4(	4 1
19 S		☌ ☽ ♂	Morr	27 10	19	13	21	10	20	25	3 ♍ 24	3 12
20 B	22 S. aft. T.	Edm.	○ 44	28 10	19	13	22	11	21	2(	16 25	2 13
21 M		rain ora	1 54	29 11	19	13	22	11	21	28	29 51	1 4
22 T	Cecilia	☌ ☽ ♀	3 8	♐ 12	19	13	22	12	22	♐	13 ♎ 4(	on 11
23 W	St. Clement	☌ ☉ ☿	4 23	1 12	19	13	22	12	22	1	28 9	1 27
24 T	Bal. Col. e.	☌ ♃ ♀	5 42	2 13	19	12	22	13	22	3	12 ♍ 58	2 40
25 F	4 ret. St. C.	☌ ☽ ☿	☽ sets	3 14	♑	12	23	13	23	4	28 6	3 42
26 S	[D. Gl. b.	fleet.	5a1c	4 15	19	12	23	14	24	(	13 ♐ 24	4 30
27 B	Advent Su.	Seasen-	6 11	5 16	19	12	23	14	24	7	28 41	4 58
28 M	Mic. T. en.	able.	7 19	6 17	19	12	23	15	25	9	13 ♑ 45	5 5
29 T			8 30	7 17	19	12	23	15	25	11	28 20	4 52
30 W	St. Andrew	△ ♄ ☿	9 44	8 18	19	12	24	16	26	12	12 ♒ 47	4 20
	[Anni. me	Ro. So.										

♎ ♎	D. L. eg.	Sun rise	Sun set.	D. L ends	leng. of D.	Day dec.	Clock aft. ☉	♄ fou night	♃ rit morn	♂ rise morn	♀ rit. morn	♎ ♎
12 4(	14	7 19	4 50	6 4(	9 4(	6 58	16 13	10 26	5 4	○ 36	5 31	11 11
12 30	22	7 20	4 40	6 38	9 20	7 18	16 5	○ 1	4 47	○ 31	4 57	10 52
12 11	30	7 30	4 30	6 30	9 0	7 38	15 27	9 36	4 30	○ 24	4 30	10 32
11 52	37	7 38	4 21	6 23	8 42	7 56	14 18	9 10	4 12	○ 17	4 0	10 14
11 33	44	7 48	4 12	6 14	8 24	8 14	12 30	8 44	3 53	○ 0	3 57	9 55

First Quart. 2 day, 1 aftern.
Full moon 10 day, 2 after.
Last Quart. 18 day, 2 after.
New moon 25 day, 7 mor.

D	☿ lat. north	♄ lat. south	♃ lat. north	♂ lat. north	♀ lat. north	☿ la. south
1	0 42	2 40	1 10	2 5	1 50	1 2
7	0 42	2 38	1 11	2 17	2 25	1 5
13	0 42	2 36	1 12	2 18	2 51	2
19	0 43	2 35	1 13	2 24	3 8	2
25	0 4	2 33	1 14	2 31	3 17	2

M D	W D	Festival Days.	Aspects & Weat.	☽ sets.	☉ ♐	☿ ♑	♄ ♈	♃ ♎	♂ ♍	♀ ♎	♅ ♐	☽ ♒	☽ la. north
1	T			10 57	9 19	19	12	24	16	27	14	26 34	3
2	F		Windy	Morn	10 20	19	12	24	17	27	15	9♓55	2
3	S		△ ☉ ♄	0 4	11 21	19	12	24	17	28	17	22 51	1
4	B	1 S. in Adv.	(□ ♂ ♅	1 13	12 22	19	12	24	18	29	18	5♈26	0
5	M		with	2 18	13 23	19	12	24	18	29	20	17 46	0
6	T	Nicholas	snow or	3 21	14 24	19	12	25	19	♍	22	29 53	1
7	W			4 24	15 25	19	12	25	19	1	23	11♉53	2
8	T	Co. of V.M.	✶ ♃ ♅	5 24	16 26	19	12	25	19	2	25	23 48	3
9	F		sleet.	6 22	17 27	19	12	25	20	3	26	5♊40	4
10	S		△ ☉ H	☽ ris.	18 28	19	12	25	20	3	28	17 32	4
11	B	2 S. in Adv.		5a25	19 29	19	12	25	21	4	29	29 25	4
12	M		Frosty	6 16	20 30	19	12	26	21	5	♈	11♋20	5
13	T	Lucy		7 13	21 31	19	12	26	22	6	3	23 19	4
14	W		with	8 13	22 32	19	12	26	22	7	4	5♌23	4
15	T		♂ ☽ H	9 15	23 33	19	D	26	22	8	6	17 34	3
16	F	Ca. T. ends	O. Sapi.	10 19	24 34	19	12	26	23	8	7	29 56	3
17	S	Ox. T. ends	♂ ☽ ♂	11 27	25 36	19	12	26	23	9	9	12♍33	2
18	B	3 S. in Adv.	✶ ♀ ♅	Morn	26 37	19	12	27	24	10	10	25 27	1
19	M		rain or	0 36	27 38	19	12	27	24	11	12	8♎44	0
20	T		sleet.	1 52	28 39	19	12	27	24	12	13	22 27	1
21	W	St. Thomas	Sho. day	3 2	29 40	19	12	27	25	13	15	6♍37	2
22	T			4 19	♈ 41	19	12	27	25	14	16	21 15	3
23	F			5 34	1 43	19	12	27	26	15	18	6♐15	4
24	S			6 45	2 44	19	12	27	26	16	19	21 30	4
25	B	4 S. in Adv.	Ch. day	☽ sets	3 45	19	12	28	26	17	21	6♑50	5
26	M	St. Stephen	♂ ☽ ♀	5a52	4 46	19	12	28	27	18	22	22 34	4
27	T	St. John	□ H ♅	7 9	5 47	19	12	28	27	19	24	6♒58	4
28	W	Innocents	Wind &	8 22	6 49	19	12	28	27	20	25	21 27	3
29	T		rain.	9 34	7 50	18	12	28	28	21	26	5♓27	2
30	F		□ ♃ ♅	10 45	8 51	18	12	28	28	22	28	18 56	1
31	S	Silvester	△ ♂ ♅	11 53	9 52	18	12	28	29	23	29	1♈56	0

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13	5 56	8 3	3 57	6 4	7 54	8 44	5 20	7 24	2 52	11 37	3 46	8
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Anſwers to the laſt Year's ENIGMAS, REBUSES, CHARADES, &c.

Enigmas.		Rebuſſes.
I. Noon.	VI. Shadow.	I. *Room.*
II. Lime.	VII. Letter E.	II. *Smock.*
III. Wheel.	VIII. Pig-tail.	III. *Love.*
IV. Window.	IX. Dew.	IV. *Abba.*
V. Totum.	X. Pr. *Truth.*	V. *Reſurrection.*

Charades.

I. *Eaſt-ſtoke.*	VI. *Content.*
II. *Sign-poſt.*	VII. *Townſhip.*
III. *Wardrobe.*	VIII. *Courtſhip.*
IV. *Head-ach.*	I. *Ring An.*
V. *Diſhclout.*	II. *Laſt An.*

Anſwer to the PRIZE ENIGMA.

1. *On Time, or Triumph of Truth. By Automathicus.*

Time ever brings the right thing about,
nd *Truth* is *in* favour, when Falſehood is *out*.

2. An Addreſs to the Youths at *Great Dalby Academy.*

y Mr. Charles Metcalfe, School-maſter of Great Dalby, near Melton Mowbray, Leiceſterſhire.

e docile youths, if you would join reſpect,
et *Truth*, and Virtue, all your ways direct:
heſe heaven-born gueſts (O! youth) true pleaſure give,
o all that do within their dictates live.
n your diſcourſe, ever let *Truth* abound,
or words without it are but empty ſound;
nd if to virtue you are well inclin'd,
n that alone, you happineſs may find.
ut vice, and falſehood, equally deteſt,
et them not harbour in your tender breaſt;
or know (O youth) ſuch things give GOD offence,
nd ſhew a want of grace, as well as ſenſe.
hen the ſhrill trump ſhall rend the mould'ring tomb,
ith 'Riſe ye dead to meet your awful doom,'

The juſt rewarded with a crown will be,
To live with angels in ſweet harmony.
O may you with the juſt your names record,
And live for e'er, in heaven, with Chriſt our Lord.

3. *By Mr. Patrick Hall, Schoolmaſter of Denby, Derbyſhire.*

With thoughts profound, I mus'd upon your prize,
And *Truth*, itſelf, came clear before my eyes.

4. *Addreſſed to the Author. By Veteranus, of Finedon.*

If, worthy Sirs, the prize I right define,
'Tis God-like *Truth* that doth ſo noble ſhine;
Oh! grant ye Gods, that *Truth* may then poſſeſs,
The only real ſource of happineſs.

5. *By Mr. Thomas Fox, Norton, Derbyſhire.*

Truth, and fell vice, do govern all our paſſion,
But vice, alas! is now the reigning faſhion;
Truth, it is prais'd, but little practis'd by us,
So looſe the age, that few are truly pious.

6. *By Mr. Benjamin Kemp, of Farnsfield, Nottinghamſhire.*

Virtue and *Truth*, are attributes divine,
Which ſhould in every breaſt conſpicuous ſhine.

7. *By Mr. T. Waring, Leiceſter.*

What mortal below, can appear more divine,
As when *Truth*, and prudence, and innocence join.

8. *By Mr. George Ward, of Hinckley.*

Aut'mathicus, with great deſign,
In ev'ry verſe and ev'ry line,
Still bright'ning to the eyes;
By reading o'er the myſtic tale,
The lines beginning to unveil;
See *Truth* herſelf ariſe.

9. *By Virtuoſo.*

How bleſs'd the parent, who ſhall find
Truth gracing every infant's mind.

Ingenious verſified anſwers were alſo given by Meſſrs. Adcock, R. Allwood, J. Bower, B. Burn, Clark, Dixon, Eaton, Fletcher, Garton, Hunter, Jackſon, J-n-n, Kite, Swift, Savage, Smith, Salter, White.

GENERAL

General Answers to all the Enigmas.

1. *By Mr. Patrick Hall, of Denby, Derbyshire.*

n, Lime, Wheel, Window, Totum, Shadow, Tail,
Dew, and *Truth,* the enigmas will reveal.

On Life. *By Mr. George Dixon, Gosport, Hants, Teacher of Navigation and Astronomy.*

u the *Noon* of life have seen,
eſt on this, my friend,
was the morning of it ſpent,
ſerious thoughts attend.
nk e'er you've ſpent th' other half
ne muſt then appear,
n keen reflections will be like
ord, or ſharpeſt ſpear.
your heart ſomewhat like ſtone,
cannot feel it now,
cuſhion-like, it pierced is
ſin, quite thro' and thro'.

Look in the *Window* of your breaſt,
And ſee your vanity,
In *Pig-tail, Shadow, Dewy* things,
In theſe no reſt can be.
You, like a *Totum* too, have ſpent
Your time in *Wheel*-ing round,
Something that pleas'd the eye of ſenſe,
Here no content was found.
Indeed, ſublun'ry things contain
No laſting real joy,
Seek *Truth,* and do her cloſe purſue,
Her pleaſures never cloy.

3. On Rural Life. *By Mr. W. White, of Barwell.*

l has ſwept the morning *Dew,*
off the verdant plains,
d as may their toil renew,
illage nymphs and ſwains.
eads his *Lime,* or guides the
rows does he feel, (plough,
ſhe, as chearful, milks her cow,
ns the ſpinning *Wheel.*
locks retire beneath the *Shade,*
n the *Noon*-tide heat,

While *Collin* woos the tender maid,
To make his joys compleat.
No powder'd *Tail* adorns his head,
Or *Windows* ſaſh'd their cot,
'Tis *Truth,* they aſk their daily bread,
Contented with their lot;
Religions holy paths purſue,
Obey their maker's call,
E'er to this world they bid adieu,
And, like a *Totum,* fall.

4. Belinda's Anſwer.

Collin, theſe ſtrains pray forbear,
penſive dilemas t'impart,
corroſive grief, I declare,
elted my fond loving heart.
firſt your epiſtle I read,
logical phraſe can expreſs,
rbulence that overſpread
art to a ſolvent redneſs.
leaſure, paſt ſcenes I review,
rce of our infantine love,
ble tranſits purſue,
he green verge of the grove.
firſt our commencement begun,
ible accents of love,
happy that *Noon* that or-
ain'd,
anquil contracts from above.

Sometime mere diſtraction for me,
O'erwhelmeth my natural ſenſe,
Lime, Window, Totum, Shade, Miſt, Queue,
And ſuch like fantaſtical nonſenſe.
But, in your concluſion I've ſeen
The poet, gay lover, and friend,
Your temper, as ſummer ſerene,
Where rural ſweet *Truth* it doth blend.
My heart, with my hand, I propoſe
To *Collin*'s benevolent will,
To him many ſweets I'll diſcloſe,
In the ſecular farce of quadrille.
Convivial ſcenes ſhall abound, (knot
Whilſt I'm pleas'd with *Collin*'s top-
The ſilent green groves ſhall reſound
With love's jubilating eclat.

5. The Invitation. *By Mr. T. Fox, Norton, Derbyshire.*

Would you taste the *Noon* tide air,
To yond fragrant *Shade* repair,
Where the *Lime's*, and poplars great,
Form a sure and safe retreat.
Where the linnet mounts his *Tail*,
Singing sweetly through the dale,
Window, *Wheel*, nor *Totum's* range,
To disturb love's sweet exchange.
Where bright sol, in splendid hue,
Has dispell'd the morning *Dew*;
Shelter'd from his piercing rays,
Happy shall be all our days,
Crown'd with virtue, *Truth*, and l
We shall taste the joys above.

6. An Ode to Spring. *By Mr. John Savage, Coven*

Hail blithsome spring, thy chearing rays,
Makes winter quit our isles,
And tuneful nestlings chant their lays,
And all creation smiles.
In ice tho' late the streams were bound,
Now in meanders flow,
Which turns the mill *Wheel* softly round,
And gentle breezes blow.
Each *Noon* the lambkins seek the *Shade*,
And *Window* blinds are spread,
And bees skim o'er the flowery mead,
Till Phœbus hides his head.
Each eve, young *Damon*, with hi
By *Lime* pits, cross the vale,
With hearts of *Truth*, allay'd f
care,
Rehearse the lover's tale.
Ty'd-hair, nor *Totum*, ne'er can t
Or once intrude their mind,
His virtuous fair he strives to plea
Who proves to him as kind.
While Phi omela chants her song,
And *Dew*, descending fall,
What happy joy, their walk
longs,
And spring proclaims them all.

7. A Morning Walk. *By Mr. Benjamin Kemp, Farnsfield, Nottinghamshire.*

The morn sub-*Lime* drives darksome *Shades* away; } 2. 6.
Rise, O! my soul, and due obedience pay } 2. 6.
To the great author of returning day.
Each tree umbrageous yields a cool retreat,
And gentle *Dew* repels the *Noon*-tide heat; 9. 1
See glorious Sol *Wheels* his triumphant course, 3. 7.
Each *Window* celebrates the heavenly source. 4.
Each plant, and flower, where e'er we turn to view,
Does their great author's power, and wisdom shew;
Let *Pig-tail'd* sops in lux'ry still delight, 8.
And o'er their cards, or *Totum*, waste the night. 5.
Be mine the task, gay nature's works to read,
And *Truth* and virtue learn, where e'er I tread: Pr.
Thus, contemplation shall my hours employ,
And taste eternal sweets that never cloy.

8. *By Mr. Wm. Salter, jun.*

When rosy morn awakes the rising day,
And *Shades* of night in swiftness fly away, 6. *Shadow*

ight to the fields, in fancy's form I rove,
view the pleasures of the leafy grove;
ere feather'd songsters fill the limpid air,
h notes melodious, harmony most rar*E*; 7.
e're sylvan shepherds lead their fleecy trains
ough pleasant vales, to feed on fertile plains.
ere chearful swains again renew their toil,
make the steril field with verdure smile;
re glittering *Dew* bedecks the verdant mead, 9.
flow'rs ambros'al scent the *Noon*-day shade. 1.
re lofty tow'rs, around, in splendour rise,
se *Top*'s, sub-*Lime*, seem lost in lofty skies; 5. *Totum.* 2.
in the rural cot, and mossy cell,
entment, *Truth*, and innocence do dwell. *Prize.*
nd the cottage *Window*, woodbine sweet, 4.
vin'd with roses, form a scene most neat;
s glide the pleasures of a country life,
from ambition, pride, and jarring strife.
lst in the town, where pride and folly grow,
lls the gay coxcomb, and the fribbling beau,
powder fine, besmear'd all o'er his *Hair*, 8. *Tail.*
ain the heart of some unguarded fair.
Wheel of fortune can his thoughts invite, 3.
sure and fashion are his whole delight;
pride and folly, conquering time shall rust,
each gay fashion moulder in the dust.

9. *By Mr. J. Smith, School-master, Digby, near Sleaford.*

happy is he, who is blest with a wife,
abl'd to pass thro' this troublesome life;
mind always happy, no care in his pate,
hirst for ambition, no wish to be great.
rises each morning at break of the day,
supplicates heaven to prosper his way;
vened and chearful, to work does repair,
crust in his pocket, and bottle of beer.
lowing, or sowing, or spreading of *Lime*, 2.
edging, or ditching, he spendeth his time;
orketh all day till decline of the sun,
home to his wife when his labour is done.
, when she perceives him the *Window* pass by, 4.
wn that she *Loves* him she will not deny; 3 *Rebus.*
when, to his comfort, he enters the *Room*, 1 *R.*
Courtship and pleasure, she welcomes him home. 8 *Char.*
chearfully fits herself down to her *Wheel*, 3.
r mutual contentment no one can reveal;

They always are happy, their joys ever new,
And blessings fall on them, refreshing as *Dew*. 9.
No *Tails* or *Te-totums*, or such trifling toys 8. 5.
Are at any time wanted t' add to their joys;
Their sweet rattling babes are their chiefest delight,
And the whole of their care at morn, *Noon*, or night, 1.
Is t' have them train'd up, that they pleasure may find,
In the paths of great *Truth* and improvement of mind. *Pr.*
Thus may they prepare, as they slide into years,
Take leave of this life, being void of all fears;
And then may their bodies sleep sweetly in dust,
'Till th' last *Resurrection*, and rise with the just. 5 *Reb.*

10. On Life. *By Mancunienſis.*

Ah! what is life! 'tis but a dream,
'Tis shorter than the *Noon*-tide sun!
Swift as the *Shadow*, or the stream,
Our *Wheel*-ing moments run.
Just as the *Lime* absorbs the *Dew*,
Or as the sun doth melt the snow,
So time devours the moments few,
Allotted us t' spend below.
Then since our circling days do pass,
Swift as the *Whirligig* doth dance,
And life is brittle as the glass,
That in the *Window*'s broke by chance
Let us delight in sacred *Truth*,
And not in *Foppish* actions spend
Our precious time, but in our youth
Make preparations for our end.

Ingenious answers were also given by Messrs. Waring, Autonothicus, Adcock, Overton, Swift, Ward, and others.

Last Year's REBUSSES, CHARADES, &c. answered.

General Answers.

1. *By Mr. Benjamin Kemp, of Farnsfield, Nottinghamshire.*

In the *township* of *East-stoke*, a nymph doth reside,
Whom oft times in *Courtship* I have woo'd for my bride;
Have provided a *Wardrobe*, and *Dishclout* likewise,
And have furnished each *Room* to allure her sweet eyes.
No *Smock*-faced intruder a rival can prove,
If *Papa* gives consent, and admits of our love;
Content-ed at *Last*, if she the *Ring* will receive,
I would covet no splendour that *India* can give.
But be happy with her, and a competent store,
Never wish for a *Sign-post* to stand at our door;
If *Head-ach*, or sickness, should approach to my cot,
I would then still endeavour to bear with my lot,
And serenely reside with the maid of the mill,
If her temper is calm, and her tongue but lie still;
But a scold should she be—oh! detested reflection,
I'd then wish for death, and a new *Resurrection*.

2. On the Death of a Friend. *By Mr. W. Salter, jun.*

Ye zephyrs mild, that wave each spray, hear this my mournful tale,
Which I in perturb'd lines pourtray, in coverts of the vale.
Farewell, alas! what dire *Mischance* consign'd thee to the grave,
Where pallid spectred ghosts walk o'er the relicks of the brave.
No more shall *Sign-post* meet thy sight, within this *Township* gay,
Nor *East-stoke* bard shall thee delight, since thou'rt resign'd to clay.
No *Wardrobes* fill'd with rich *Attire*, can e'er thy fancy move,
Nor *Courtship* will thy soul require to gain thy Saviour's love.
No more can *Dishclout* pleasure give, since to that *Room* thou'rt fled,
No sweet *Content* can I receive, since number'd with the dead.
Grant, heavenly *Father*, pensive *pray'r*, let me obtain but this,
When *Resurrection*-day appears, to meet with endless bliss.

Last Year's QUERIES answered.

I. QUERY *answered.* *By Mr. George Ward, of Hinckley.*

There is no mention of the two thieves in any book, but in the gospel of *Nicodemus*, where, after the manner of his trial and condemnation, it is said, "After these things, they led him to the cross, and there they crucified him betwixt two thieves, *Dismus* on the right, and *Gesmus* on the left." For the authority of the book I cannot vouch; Dr. Stackhouse, in his Life of Christ, calls it a false erroneous gospel, &c.

II. QUERY *answered.* *By Mr. George Dixon, of Gosport.*

Palmyra, in the province of *Syria* in *Turkey*, in *Asia*, once a superb and noble city, ten miles in circumference, and the pride of the eastern world, has long been in ruins. After *Odenathus*, the last king of *Palmyra*, died, his wife *Zenobia* reigned in great glory for some time, but not being able to brook the Romans tyranny, she declared war against the emperor *Aurelian*, who took her prisoner, led her in triumph to *Rome*, and butchered her principal nobility; and, amongst others, the sublime *Longinus*, who was her secretary. This happened in the year 273 of the christian æra; soon after which *Aurelian* destroyed the city, and massacred its inhabitants. *Mr. G. Ward* says this happened 2621 years after the deluge, and 273 after the birth of *Christ*. *Mr. Thomas Fox, and others, answered it also.*

III. QUERY *answered.* *By Automathicus.*

That I may not be thought singular in my opinion, I shall give my answer in the words of an eminent author or two:—

"No ſcience has a more diſtinct ſphere of purſuit, than the moral one, and the ſubjects about which it is employed, cannot for their uſefulneſs and importance be ſurpaſſed by any. The moral literature is the true province of man. It muſt be ſo, ſince his beſt nature and higheſt intereſt are univerſally acknowledged to be moral; and if they are moral, this ſtudy alone comes up to the true end and dignity of rational life; this then is the maſter ſcience, in compariſon of which, moſt other ſciences are no more than the toys of literature; even the ſcience of government and laws, is derived from it, and cannot, according to the order of nature, deſerve equal honour. The province of this moral ſcience, is to inſtruct us in the knowledge of God, and his perfections, to aggrandiſe our ſentiments of the univerſe, its laws and government; to familiarize to our view the principal deſigns of our own being; to model our whole conduct in correſpondence with theſe, and thus direct us to the dignity and true happineſs of moral life." This is ancient wiſdom; this is the true philoſophy, of which neither *Socrates*, *Timæus*, *Locrus*, nor the oldeſt father of wiſdom in *Greece*, was the author, for it has been the voice of GOD to his intelligent creatures from the beginning.

In a ſimilar manner it was anſwered by Meſſrs. G. Dixon, H. Overton, &c.

IV. QUERY *anſwered. By Philomathematicus.*

The elaſtic gum, known by the name of Indian rubber, or lead-eater, is very probable the moſt proper ingredient to put in the varniſh. N. B. The gum may be diſſolved in *Etherial* ſpirit, then mixt with the varniſh.

V. QUERY *anſwered. By Mr. John Overton, the propoſer.*

An elliptical tool will always give a parabolic figure to a ſpeculum, by poliſhing it with croſs ſtrokes, as is done for a ſpherical figure, where the diameter of the ſpeculum does not exceed one fourth of its focal length, and the thickneſs one tenth of its diameter; the diameters of the poliſher ſhould, in ſuch a caſe, bear a proportion to each other, as 9: 10, the ſhorteſt, or tranſverſe diameter, being exactly the ſame as that of the ſpeculum; a tool accurately formed as above directed, ſo that the ſpeculum ſhall adhere to the poliſher uniformly, will neceſſarily cauſe the metal to take the parabolic curve from within outwards, the conjugate diameter of the poliſher will have a tendency to work the metal into a large ſphere, conſequently every time the metal is worked upon that diameter, it will poliſh faſter towards the edges of the metal, the other diameter

meter having a tendency to keep it truly ſpherical. The ſtone pitch formed into the proper convexity, and the al poliſhed in a room where the thermometer ſtands at ut 100 temperate, will in general do. If the ſpeculum has le in the middle, it is to be obſerved that the poliſher muſt e a hole likewiſe. Should it be wanted to poliſh a metal is thicker than one tenth of its diameter, the tranſverſe meter ſhould be one twentieth leſs than the diameter of the al, and the conjugate one twentieth more. Should the me- be very thick, the conjugate diameter ſhould be the ſame as metal, and the tranſverſe as 9 : 10 accurately; the para- curve would, in this caſe, be obtained from without rds, the leſſer diameter having a tendency to ſhorten the s, conſequently increaſe the curve in the metal, the con- e having a tendency to keep it truly ſpherical. The above om experience; I, a few days ago, poliſhed a metal of $14\frac{1}{2}$ s, with 4 inches diameter, upon a tool as above, which ered exceeding well, as its diameter exceeded $\frac{1}{4}$ of its s; the diameters of the poliſher was as 87 : 100.

New Enigmas to be anſwered in next Year's Diary.

I. Enigma (35) *By Mr. William Swift, of Stow.*

I'm a lion—can that be true,
I'm a leopard—how then ſay you.
I am a king—you muſt ſhew it,
I am *Shakeſpear*—that's a poet.
I am the ſun—that can't be right,
I am the moon—ſeen day and night.
I'm a ha--rick—that's ſtrange to me,
I am a ſh p—that ne'er can be.
I'm your ſervant—yes ſo you ſay,
What's at your door-- your name I pray

II. Enigma (36) *By Mr. John Smith, of Digby.*

e from pride, and void of ſtrife,
lets of a buſy life,
amidſt th' groves and bow'rs,
away my pleaſing hours.
metimes I'm found a ſlave t'love,
Yet its flames I ne'er approve,
Th' commandments I do embrace,
Yet in heav'n ſhall ne'er have place.
What you've ſeen my name unfold,
Already its t' plainly told.

III. Enigma (37) *By Mr. T. Fox, of Norton, Derbyſhire.*

me with a clatter,
full of good matter,
l up a *Diary* page;
t one out of ſeven,
wager's laid even,
with me wou'd wiſh to engage.
m an odd creature,
'er formed by nature,
h' produce of ſome dainty dame;
Who loved her belly,
I plainly do tell ye,
And ſoon you'll acknowledge the ſame.
I am long, or I'm round,
And am frequently bound,
By th' noſes t' one or another;
Juſt the colour of *Cain*,
Quickly after he'd ſlain,
And kill'd his poor righteous brother.

And

And tho' I am deſpis'd,
By a tribe circumcis'd,
Now ſcatter'd and ſpread the world o'er
I'm a dainty for kings,
As the old poet ſings,
When drenched in my mother's gore.
And when cramm'd with her fat,
(I wou'd have you mark that)
And ſcorch'd in th' flame by my maker
I do pleaſe young or old,
Either modeſt or bold,
Whoe'er of me is partaker.
I, at *Chriſtmas*, am known
In the country and town,
And at the houſe of the vicar;
So then, what can I be,
Come and tell unto me,
And you ſhall have ſtore of good liq

IV. Enigma (38) *By Mr. John Savage, of Coventry.*

When winter quits his gloomy reign,
And blooming ſpring returns again,
Soon as the lark doth leave his neſt,
And ſoaring ſwells his little breaſt.
Soon as he tunes his artleſs ſtrains,
We ſpeed acroſs the verdant plains;
Yet not to plains confin'd are we,
In meads and groves you oft us ſee.
But hark, how cruelly we're us'd,
How ſhockingly we are abus'd,
We're treated with the pangs of hel
Such dreadful pains no tongue can
Then tyrants, for to make more ſtri
Rob us of both our food and life;
So we in patient agony,
Do fall beneath their hand and die;
And leave our ſtore for their great
Who treated us with ſuch abuſe.

V. Enigma (39) *By Philomathematicus.*

From *India*'s burning clime I'm brought
With cooling gales, like zephyrs, fraught;
The rain-bow, when it paints the ſky,
Can't ſhew more diff'rent hues than I,
So faſt can't change its form with gales,
I'm now and then both maſts and ſails;
I am yellow, blue, red, and green,
A beggar there, and here a queen.
When ladies view th' grand parade,
Or when they are at maſquerade;
I then do grace the lovely fair,
And ſometimes live in houſe of ha
I ſhew, at once, both heat and co
But ſtop my pen, my tale is told.

VI. Enigma (40) *By Mr. George Dixon, Teacher of Aſtronomy, &c.*

Attend, ye riddling wits attend,
At once behold in me a friend;
Friend did I ſay, ſure I am no foe,
But would on you rich gifts beſtow.
I preach good doctrine, but its pow'rs
Where reaſon's blinded, ſeldom cures;
Nor will they hearken to my voice,
But make deſtruction's rule their choice;
They vainly hate me all their days,
And ſhun me when I ſhew my face.
O! *Britiſh youth*, be ye more wiſe,
Nor once ſo good a friend deſpiſe;
But kindly take me to your breaſt,
A bleſſing I'm if thou careſs'd;
A mother I to you will prove,
And crown you with a father's love;
I'll never leave you but will ſtand,
When danger's near at your right hand.
And will uphold you by my pow'r,
When ſharp temptations do allure;
Then even let me be your guide,
O'er all your actions to preſide.
Religion, wiſdom, then will ſhine,
And you yourſelf appear divine;
Now tell me who this friend can be,
Next year in BRITISH DIARY.

VII. Enigma (41) *By Mr. W. Harris, of Nuneaton.*

Aſide, aſide, ye wits and bards of fame,
Whilſt I my uſes, and virtues name;
I eaſe man's feeble joints, am his defence,
'Gainſt ſnarling curs and men of inſolence.

'm moſtly round, am either ſhort or long,
never ſpeak (good reaſon) I've no tongue;
Nor have I life, yet, well apply'd, I ſend
The buſy home, and make the haughty bend.
When two brave ſons of Britain's iſle agree,
Duels to fight, did each make uſe of me;
nſtead of arms, that precious blood do ſpill,
And drub each other, till they get their fill.
doubt not but it would ſave many lives,
And keep from being widows, many wives,
Nor need poor helpleſs orphans to complain,
The loſs of fathers, by this practice ſlain.
Kind bards adieu—you ſoon will gueſs my name,
Tho' hid i'th' BRITISH DIARY of fame.

VIII. ENIGMA (42) *By Mr. Benj. Kemp, of Farnsfield.*

Why ſhould the muſe extend in plaintive ſongs,
The ſad cataſtrophe of my mother's wrongs;
How earth's foundations ſhook, the rocks were rent,
'er I to aid mankind forthwith was ſent;
uffice to ſay, I ſped from diſtant plains,
And early croſs'd great *Neptune*'s ſalt domains;
Hence royal ſanction dignified my birth,
And Britain's ſons well knew my uſe and worth.
oon as I'm form'd I quit my native home,
o which, perhaps, I never more muſt come;
ut wander (*Gipſy like*) from place to place,
n poſt of honour, or of foul diſgrace.
(tinerant like) am driven here and there,
et ev'ry rank my preſence doth revere;
ut ſeldom let their idol fav'rite reſt,
Need pleaſure, paſtime ſoon demand this gueſt.
earch *Britiſh* annals, and you'll find in me
A magic ſpell—a wond'rous prodigy;
or me, the lawyer ably pleads his cauſe;
or me, the proſtitute breaks Virtue's laws;
or me, the learn'd myſterious arts reveal;
or me, perdition's ſons break thro' and ſteal;
or me, how oft the lyre hath been unſtrung;
or me, how many a fellow hath been hung;
The active tradeſmen, and laborious wight,
Anxious for me, will labour day and night;
n ſhort, man's univerſal actions be,
n termination pointed out to me.

IX. ENIGMA

IX. Enigma (43) *By Automathicus.*

Before Deucalion's flood I had my name,
To the end of time I ſhall retain the ſame;
Various my ſhapes—I often change my hue,
Tho' old I am, yet ev'ry year am new.
Oft cloth'd in white—ſometimes wear a black robe,
And I am known in moſt parts of the globe;
A harden'd wretch againſt the half clad poor;
Sometimes a friend to beggars at the door.
At times appear with hoary head and beard,
At others have in female form appear'd;
All friendly ſtill I am unto the ground,
And lately ſmil'd, till my ſucceſſor frown'd;
Yet ſmiles are almoſt ſtrangers in my face,
And laughing beauties by me loſe their grace.
All pale and meagre I'm frequently ſeen,
With huge large teeth, intenſely ſharp and keen,
Without remorſe—feel not for others woe,
No tenderneſs of conſcience ever know.
To you an uſeful leſſon I yet teach,
And like a parſon, to the great do preach;
When I am moſt ſevere, let them be mild,
Relieve the widow, and the orphan child;
To all the poor benevolence extend,
Then ſhall their heav'nly father be their friend.

X. Enigma (44) *By Mr. Thomas Leybourn.*

Says *Phillis* to *Strephon*, and then you ſhall find,
That I to my *Strephon* will ever be kind;
I've been, and am ſtill, in all kingdoms and ſtates,
For ſo it is decreed by th' unchangeable fates;
That no peopled planet, that ſhines in yon ſphere,
Can exiſt a moment, if I am not there.
Even heav'n itſelf would be joyleſs to all,
Should I be abſent; this wonderful ball
To mortals cou'd yield no delight I proteſt,
Not a babe could exiſt, no parent be bleſt.
No ſhip on the ocean one moment would ride,
No friend be ſincere, nay! not bridegroom or bride,
Could feel the leaſt tranſport of joy or delight,
Their day would be wretched, and joyleſs the night;
'Tis I that give freedom, yet I can oppreſs,
Can keep rogues in jail, or can yield them redreſs.
I murd'rers can puniſh, or I can refrain,
In all that I do ſtricteſt juſtice remain;

'Tis

'Tis I can give happineſs, I can do all
That mortals can wiſh for, and I'm at their call.
They know me, they feel me, acknowledge my pow'r,
They love and deteſt me, aye, both in one hour.

XI. Enigma (45) *By Belinda.*

When gay Aurora's roſy fingers fair,
Firſt op'd the ſcenes for ſol's triumphant car;
When lovely nature's ſmiling landſcape ſeen,
The lucid pomp of night's illuſtr'us queen,
Eſcorted by her bright nocturnal train.
While Phebus fair, a deſtin'd vagrant roll,
In curv'd gradations round the artic pole;
Then Terras boſom was my vaſt empire,
So once I own'd him for a potent ſire.
Sublunar ſceptics bias'd by rude will,
Aſſerting this, diſplays their want of ſkill;
From northern ſhades a mighty hero ſprung,
And thro' the air his voice terrific rung.
Not words alone did thro' the ether glide,
But lucid facts by machines verify'd;
Transfer'd my being to ethereal mold,
Where I ſhall, during time, my vigils hold.
The world alarmed at this recent change,
With griſly ſhields in hoſtile phalanx range
Along the fields with militant career,
Pride led the van, while ſhame brought up the rear.
Proud fancy ſtorms with a gigantic rage,
And wond'rous conflicts fill'd the ample ſtage;
When lo! a ſecond to our hero came,
That willingly approves his recent ſcheme.
Dilates its fame to regions far and near,
Within the limits of the ſolar year;
Diſmay'd, each opponent's bombaſtic roar,
And ſhall preſide till time ſhall be no more.
Then ponderous globes around the central ſun,
Their firſt excentric rapid courſe begun;
My vaſt influence o'er the world's wide ſtage,
Earth, air, and ſeas, o'er king and antique ſage.
Behold, I make huge ſyſtems harmonize,
In pert gradations thro' the azure ſkies;
Without my aid, grim chaos would regain
His primeal ſeat, and black deſpotic reign;
Kind gents explore this quinteſſence divine,
And verdant laurels ſhall your brows entwine.

XII. Enigma

XII. Enigma (46) The Prize Enigma. *By Mr. Waring.*

What pleaſing ſounds are theſe that greet my ear?
Is it not *Philomel*—or Chanticleer?
Or are the Gods at their ambroſial feaſt;
In Tempes vale, ſalubrious vale of reſt,
Or are Helconian bards in ſtrains ſublime?
Their harps in tune, with true poetic rhyme;
But ſtay, my muſe, behold the ſphinx, propound,
A new enigma, dark, obſcure, profound;—
But ye Oedipean wits, who in the maze
Of dark intricate windings bear the bays,
With eaſe will find the clue, and bring to light,
Each abſtruſe meaning, and each dark indite;
Beware of flattery—beware of me,
The foſt'ring parent of hypocriſy.
I ſteep her baneful darts in poiſon'd gall,
And make, by mental pow'r, the wiſeſt fall;
I led the Prince of Hell that fatal road,
Our parents to beguile, in bleſt abode.
And brought a heavy curſe down from on high,
The dreadful ſentence, "Man ſhall ſurely die"—
Tremendous hour, when man the victim fell,
From lucent greatneſs, to the verge of hell—
The heav'nly choir their golden harps forſook,
Nor evangelic hoſt their ſilence broke;
A ſolemn awe each countenance pourtray'd,
A diſmal gloom o'erſpread the earth with ſhade.
Deep pealing thunder rent the ambient air,
And glaring horror, mingled with deſpair.
Thus ſee how man, by one falſe ſtep, thro' me,
Sunk from immortal to mortality.
Tho' not conſign'd to wickedneſs alone,
True charity can witneſs deeds I've done.
There's ſcarce a deed, in great or leſs degree,
But what derives its origin from me;
With what reſplendent luſtre I appear,
When pious chriſtians are devout in pray'r.
I baffle Satan, break his ſinful rod,
And make the juſt walk humbly with their God;
And you, ye fair, whoſe captivating charms,
Whoſe ſmiles enraptures, and whoſe frown diſarms;
Diſtruſt the faithleſs ſwain, nor let him ſay,
Thro' fallacy, he's ſtolen me away.
But may your beauties, and your virtues ſhine,
Enrich'd with wiſdom, graceful and divine,
That when the laſt ſhrill trumpet rends the ſkies,
Eternal bliſs may be th' important prize.

New

New Rebuses, Charades, &c.

Rebus (23) *By the Rev. Robert Wellbank, of Malton.*

the name of an iſle, pray a conſonant join,
the name of a place where ſinners fed ſwine;
e rightly connected, a town will appear,
hich a *King* ate of an honeſt man's cheer.

II. Rebus (24) *By Mr. John Smith, of Digby.*

e firſt place, two right lines take, A letter with acute angles two,
m as many angles make, Then ſhould a friend come you to ſee,
o contain one fourth of all Three fifths of what he's ſure to be.
grees in this terreſtrial ball. Connect them right, they'll bring to
circle, place in view What's kept in awe by very few. (view

I. Rebus (25) *By Mr. John Savage, of Coventry.*

r who took queen *Vaſthi's* place, Connect them, and to you's reveal'd,
third ſon, one half, expreſs, The name of one I muſt revere,
ird of her that was beguil'd; I think ſhe's queen of all the fair.

Rebus (26) *By Mr. William Harris, of Nuneaton.*

third of what fair ladies uſe Theſe rightly join'd, a bard will ſhew,
mer, and a beaſt pray chooſe, Whoſe works do grace the *Di'ry* thro'.

V. Rebus (27) *By Mr. Thomas Leybourn.*

one third of a place, where is plenty of wine,
he front of an army when drawn up in line,
ttle, their enemies t' face, with muſket in hand,
bird you'll diſcover that's found at *Japan*.

VI. Rebus (28) *By Automathicus.*

o two ſixths of *Priam's* eldeſt ſon,
alf of him who gain'd his ſpeech by fright,
one fifth of an ancient bard who ſhone,
ring the place of my nati to light.

New Charades.

. Charade (20) *By Mr. W. White, of Barwell.*

n gen'al ſpring returns again, Succeeded by the wint'ry blaſt,
mkins ſkip the flowery plain, When falling ſnows conceal the ground,
ſol calls forth each buſy bee, My next is then moſt uſeful found.
ſt aſcends each ſpreading tree. My whole will ſhew, without a doubt,
en theſe pleaſing ſcenes are paſt, A brother quill, pray find him out.

Charade (21) *By Mr. William Harris, of Nuneaton.*

whole my firſt to hold in thrall, My ſecond is well known to all,
ed upon a tree, A uſeful ſtone to be.

. Charade (22) *By Mr. George Ward, of Hinckley.*

firſt is made of *Iv'ry* white, O cautious youth! beware my whole,
with numerous eyes; Dread my infectious touch,
cond a fine ſort of wood, For thouſands have been loſt and won,
carpenters do prize. Ah! a thouſand times as much.

IV. Charade

IV. CHARADE (23) *By Mr. Benjamin Kemp, of Farnsfie*

On yonder eminence my first is seen,
Alternate changing, as the changeful air;
My next invigorates the verdant green,
Or gently falls on *Sylvia*'s fleecy care.
When my impending whole its powers display,
Gay nature mourns, and droops a languid head,
Sad devastation marks his potent sway,
And fruits, and foliage, soon, alas, are fled.

V. CHARADE (24) *By Mr. William Stainsby, of Morley.*

In my first is immerged th' fruit of the field,
Which *Ceres* and *Vesta*, compell'd for to yield,
The pauper my second doth too often lack,
In the wint'ry season to cover his back.
My whole, as 'tis said, were a deep mourning dress,
For the people of yore when in dire distress.

VI. CHARADE (25) *By Automathicus.*

In the billowy deep, my first behold,
My next's the strength of the brave hero bold;
Hodge in a rage, my whole is cruel found,
Yet kindly doth fair *Cynthia* surround.

VII. CHARADE (26) *By Mr. William Salter, of Bilston.*

When sol's bright beams sweet genial warmth do spread,
From flowery lawns my first is straight convey'd;
My next assists the traveller on his way,
When sable night obscures the face of day.
My whole *Diarians* (when at Hymen's shrine,
Love's token does two hearts in one combine)
For a short time refulgently doth shine.

VIII. CHARADE (27) *By Mr. Wm. Marsden, of Netherhur*

As chief in succession my first must be reckon'd,
And clothing, most curious, is wrought in my second;
When rent is behind, and goods taken away,
The whole, tho' a part, is permitted to stay.

IX. CHARADE (28) *By Mr. Wm. Swift, of Stow.*

My first you have on the sea shore,
Where winds blow high, and billows roar;
As for my second, all agree,
Each weari'd tar oft wish for me,
To ease their aching heads at sea:
But if my whole they come too near,
It makes the crew all in great fear,
All hands aloft, some here some there.

I. ANAGRAM (5) *By Veteranus, of Finedon.*

Transpose, if you please, an old Latin poet,
Exhibits my wants, too well I do know it.

II. ANAGRAM (6) *By Mr. Thomas Leybourn.*

One kind of animals transpos'd, will tell,
What many farmers they have got to sell.

III. ANAGR

III. ANAGRAM (7) *By Automathicus.*

A name oft gi'en to food, if transpos'd right,
Will bring a strange phenomenon to sight.

I. PARADOX (3) *By Mr. Wm. Swift, of Stow.*

Ye ladies a' witty, attend to my ditty, and mark out my plentiful dish,
Ten hens, a capon, with eight pounds of bacon, besides a fine large salmon fish;
Three gallons of wine I drank at that time, eat a leg and a shoulder o' mutton,
Was done all one day, but how and where say, for fear you should call-m' a glutton.

II. PARADOX (4) *By Mr. Thomas Leybourn.*

Dear gents, pray believe me, I'll make it appear,
That the sum of two numbers their difference are.

NEW QUERIES.

I. QUERY (20) *By Mr. George Dixon.*

Whether or no will the full moon in May, 1798, produce an eclipse of the moon! Required a general rule for such determinations in this, or any other example of the like nature?

II. QUERY (21) *By Mr. John Elliott, of Malton.*

Why do we see in dales, near limpid rills,
Thick mists or fogs, when none's on tow'ring hills?

III. QUERY (22) *By Mr. Thomas Leybourn.*

Which is sooneſt reconciled to his misfortunes, a miser that has lost his gold, or a lover that has lost his dame?

IV. QUERY (23) *By Mr. George Dixon.*

How, or in what manner, may we acquire a true knowledge of ourselves, seeing that it leads to so glorious a contemplation as that of the divine nature?

ANSWERS to the MATHEMATICAL QUESTIONS.

QUESTION (30) *answered by Mr. A. Buchanan, jun. Sedgefield.*

The given equations are $\frac{x^2 y^2 + z^2}{2} = (245000)\,a + xyz$, $x + y + z = (625)\,b$, and $xy + z = (1700)\,c$. By doubling the first and transposing, we get $x^2 y^2 - 2xyz + z^2 = 2a$, and consequently by extracting the root $xy - z = \pm\sqrt{2a}$. But the third equation is $xy + z = c$. Hence by adding and subtracting these two, we have $xy = \frac{c \pm \sqrt{2a}}{2}$, and $z = \frac{c \mp \sqrt{2a}}{2}$.

Now from the second equation $x+y=\frac{z}{b}=$ (by substitu
$\frac{c\mp\sqrt{2a}}{2}$ for its equal z) $\frac{c\mp\sqrt{2}}{2b}$. Hence having $x+y$
$\frac{c\mp\sqrt{2a}}{2b}$, and $xy=\frac{c\pm\sqrt{2a}}{2}$, x will be found
$\frac{c\mp\sqrt{2a}}{4b}\pm\sqrt{\frac{c\mp\sqrt{2a}}{4b}}^2-\frac{c\pm\sqrt{2a}}{2}$, and $y=\frac{c\mp\sqrt{2}}{4b}$
$\mp\sqrt{\frac{c\mp\sqrt{2a}}{4b}}^2-\frac{c\pm\sqrt{2a}}{2}$ in all cases of the equations.

And in this, where x, y, and z must all be whole numbers, a
y (partly limited) greater than x, we shall have $x=20$, $y=$
60, and $z=500$. From whence it appears, that the Lady
age is 20 years, her height 60 inches, and fortune 500l. as r
quired.

The same, by Mr. John Salter, Bilston.

By clearing the first equation and extracting the root, y
will have $xy-z=700$, this taken from the third, leaves
$=1000$ or $z=500$l. Now z being known, the second a
third equations become $y+x=80$, and $yx=1200$; when
by subtracting four times the latter from the square of the fo
mer, we have $\overline{y-x}^2=1600$, or $y-x=40$, this added to t
former, gives $2y=120\therefore y=60$ inches, and $x=20$ year
and $z=500$l. her fortune. W. W. R.

II. Question (31) *answered by Mr. G. Dixon.*

From the square of the first equation, subtract the second
we get $2xy+2xz+2yz=a^2-b$; which subtracted fro
twice the third, and reduced, gives $y^2z^2-8yz=24$
from hence $yz=20$: and the third equation in the questi
will now become $xy+xz=207=c$; or $y-z=\frac{c}{x}$; th
compared with $x+y+z=a$, gives $x^2-ax=-c$; solved
$=\sqrt{\frac{a^2}{4}-c}+\frac{a}{2}=23$; hence $y=5$, and $z=4$; and t
young Lady consented to WED.

*Other ingenious answers were also given by Messrs. W. Salter, j
T. Adcock, Amicus, James Beastall, T. Booth, A. Buchanan,
Elliot, T. Fox, P. Hall, W. Hulland, T. Leybourn, Mancunie
W. Plues, J. Salter, D. Sheridan, Philo Mathematicus, G. Wa
Jos. Waters, and A. Young.*

III. Que

III. QUESTION (32) *anſwered by Mancunienſis, the propoſer.*

Dividing the third equat. by the firſt, we get $\frac{v}{z} = 1.8$, and ſtracting the ſecond, from the product of the firſt and fourth re 1, we have $v\,z = 45$, conſeq. $v = \sqrt{81} = 9$, and $z = \frac{45}{5}$ 5; alſo dividing the laſt equat. by the firſt, we obtain $w + = 58$, hence $w = 58 - 45 = 13$; but the fourth equat. luced gives $x = \frac{13\,v + 61\,w}{13\,z} = 14$; alſo the firſt equat. luced gives $y = \frac{471 - w\,z - 2\,w\,x}{x} = 3$; hence the required rd is INNOCENCE.

Other ingenious anſwers were alſo given by Meſſrs. Rooth, T. Adk, Amicus, A. Buchanan, G. Dixon, P. Hall, John Salter, Wm lter, D. Sheridan, and Joſ. Waters.

V. QUESTION (33) *Anſwered by Mr. Wm. Plues, North Holme.*

Let A D repreſent the tower, D E the horizon- diſtance, and B A C the angle of elevation. the nature of projectiles, the body will de- ribe the parabolic curve A E, and the time ſuch deſcription will be equal to that of a dy falling from C to E, whereof B E is given 100. To find C B, ſay as the co-ſine of e angle of elevation, is to the horizontal diſ- nce (A B = D E) ſo is the ſine of the angle of elevation to e height C B = 1172.2 feet; then C B + B E 1272.2; and as $\frac{1}{12} : 1^2 :: 1272.2 : 79.102$, the ſquare root of which is .893 = 8″.53‴ the anſwer.

Solutions were alſo given by Meſſrs. T. Leybourn, Philo Matheaticus, T. Booth, A. Buchanan, G. Dixon, J. Elliot, T. Fox, . Hall, Mancunienſis, John Salter, Wm. Salter, D. Sheridan, T. odd, E. Hornby, and Joſ. Waters.

. QUESTION (34) *Anſwered by Amicus, Royal Navy, Portſmouth.*

This queſtion is purely arithmetical, and may be thus ſolvd:: Between 20 and 101.25 find three geometrial mean proortionals; thus 101.25 divided by 20 = 5.0625, whoſe fourth oot (always more by units than the number of means) is 1.5 he ratio of the progreſſion, and the terms will thus ſtand: o; 30; 45; 67.5; 101.25, of which the firſt four, viz. 67.5; 5; 30; 20, are the remaining quantities of pure ſpirit after ach evacuation; and the difference of the firſt ſeries, viz.

33.75; 22.5; 15; 10, are the quantities of pure spirit drawn o each time.

The same by Mr. Wm. Hulland, Newborough, Staffordshire.

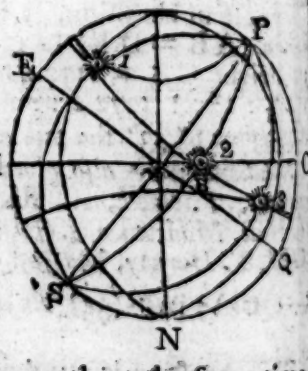
Put $a = 101.25$, $b = 20$, and $x =$ the remainder after t first exhaustion; now by the question, it is manifest that t quantity of neat brandy drawn out each time will be propor tional to the quantity of neat brandy in the cask before ea respective exhaustion, and

consequently by conversion, $a : x ::$ $\begin{cases} x : \frac{x^2}{a} & \text{second remainder} \\ \frac{x^2}{a} : \frac{x^3}{a^2} & \text{third,} \\ \frac{x3}{a^2} : \frac{x4}{a^3} & \text{fourth; therefor} \end{cases}$

$\frac{x4}{a^3} = b$, and $x = \overline{a^3 b}|^{\frac{1}{4}} = 67.5$ gallons; from hence 33.75 22.5, 15 and 10 gallons are the respective exhaustions re quired.

Solutions were also given by Messrs. John Elliot, T. Booth, A Buchanan, G. Dixon, T. Fox, P. Hall, W. Hulland, J. Hornby T. Leybourn, Mancunienſis, W. Marſden, W. Plues, W. Salter, J Salter, D. Sheridan, T. Todd, J. Waters, and T. Whitting.

VI. Question (35) *Answered by Mr. G. Dixon, the propoſer.*



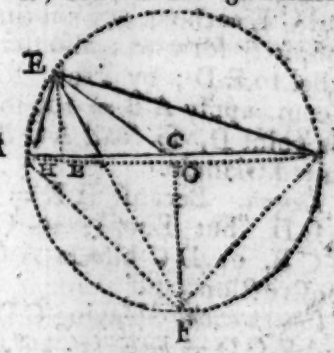
As 2 : 3 :: tand. rad. : tan. alt. Sun's upper limb = 56°. 18′. 35″, from which ſubtract 16′. 35″. for ſemi-diameter, and refraction leaves 56′. 2″. for the true altit. of the ſun's center. Then in the oblique ſph. △ Z P ⊙ there is given Z P = 39°. 12′. co-lat.; Z ⊙ = 33°. 58′. co-alt.; and P ⊙ = 72°. 12′. co-decl.; to find ∠ Z P ⊙ = 10°. 6′. or 11h. 19′. 36″. A. M. the time when the obſervation was made; and ∠ ⊙ Z P = 162°. 36′. the ſun's azimuth from the north at the ſame time; hence his bearing was S 17°. 24′. E. Again in the right angled △ ♈ B ⊙, there is given ∠ ♈ = 39°. 12′, and ſide B ⊙ the ſun's declination; to find ♈ ⊙ = 28°. 56′. the ſun's ampli tude at his riſing and ſetting; hence he roſe N E by E ½ E, and ſet N W by W ½ W nearly. Laſtly, in the △ Z P ⊙, there is given Z P, Z ⊙ = 108°. the ſun's zenith diſtance at the beginning and ending of twilight, and P ⊙ the ſun's polar diſ tance;

e; to find the ∠ Z P ⊙ = 155°. 6′; hence day broke at 39′. 36″. in the morning.

olutions were also given by *Messrs. J. Hornby, Amicus, A. Bu-an, J. Elliot, T. Leybourn, Mancunienſis, Philo Mathematicus, T. Whiting.*

I. Question (36) *Answered by Mancunienſis, the propoſer.*

onſtruction. From E, the given part, let fall the perp. E H 270 miles; upon the indef. line A D, draw E B = 300 miles, E C = 450 miles, both of n to terminate upon the equa- l line A D; at C erect C F . to A D; continue E B ard till it cuts C F in F; e E G and G F equal to each r; on G as a centre with the E G = G F deſcribe the cir- E D F A; join the points E A, E D; ſo ſhall A, B, C, D, ere at the four ports arrived



emou. Join A G, G D, D F, and F A; then becauſe = G D (being the rad. of the ſame circle) and G G perp. D, and common to both Δ's, A C = C D, and for the reaſon A F = F D; now Euc. I. 8. A G F = D G F; Euc. III. 20. A E F = $\frac{AGF}{2}$, and F E D = $\frac{FGD}{2}$; con- A E B = B E B. *Q. E. D.*

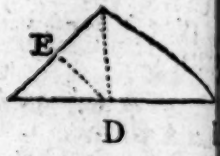
omput. $\sqrt{EB^2 - EH^2}$ = H B 130.767 miles; $\sqrt{EC^2 - EH^2}$ = H C = 360 miles; H C − H B = B C 29.233 miles, the diſtance between the ſecond and third s; H B : H E :: B C : C F = 473.307 miles; H E : E B F : B F = 525.897 miles; E B + B F = E F = 825.897 s; C F : B F :: $\frac{EF}{2}$: G F = 458.832 miles; C F − G F G = 14.475 miles; $\sqrt{GD^2 - CG^2}$ = C D = A C = 603 miles, the diſtance between the third and fourth ports; − H C = A H = 98.603 miles; A C − C B = A B = 37 miles, the diſtance between the firſt and ſecond ports; + C H = H D = 818.603 miles; $\sqrt{AH^2 + HE^2}$ = E = 287.441 miles, the firſt ſhip ſailed; $\sqrt{HD^2 + ED^2}$ D = 861.98 miles, the laſt ſhip ſailed; A E : A H :: : ſine A E H = 20°. 3′. 45″. the firſt ſhip's courſe between

the S. and W.; E B : H B : : rad. : ſine H E B = 25°. 50'. 3[illegible] the ſecond ſhip's between the S. and E.; E C : H C : : rad. : ſine H E C = 53°. 7'. 49". the third ſhip's courſe between the S. and E.; and E D : H D : : rad. : ſine H E D = 71°. 44'. 45" the fourth ſhip's courſe between the S. and E.

Anſwers were given by Meſſrs. A. Buchanan, J. Elliot, J. Hornby, T. Leybourn, J. Salter, and D. Sheridan.

VIII. QUESTION (37) *anſwered by Maucunienſis.*

Conſtruction. Make C D = 40, D E and C E each eq. 30, continue C E indefinitely forward; alſo draw C B parallel to E D; by Prob. XXI. Simp. Geom. apply A B = 100 to paſs thro' the point D, ſo ſhall A C B be the required triangle.



Demon. Becauſe D E = C E; per conſtruction C D E = E C D; but Euc. I. 29. C D E = D C B, conſeq. E C D = D C B, or D C biſects A C B, the reſt is evident from the conſtruction.

Computation. Having C D = 40, D E = C E = 30, we may find E C D = 48°. 11'. 23".; but A C B = 2 E C D = 96°. 22'. 46"; alſo A B : C D : : co-ſine A C D : tang. 14°. 55'. 53" whoſe half co-ſine is 37°. 32'. 3". ½; now tang. 37°. 32'. 3" : rad. : : ſine A C D : co-ſine 14°. 1'. 50". half the diff. of C A B and A B C; hence C A B = 55°. 50'. 27". and A B C 27°. 46'. 47". then ſine A B C : ſine C A B : : A B : C B = 83.264; and ſine A C B : ſine A B C : : A B : A C = 46.897 alſo C B : D E : : A B : A D = 36.03, and D B = A B - A D = 63.97.

Algebraic Solution by Mr. William Hulland, Newborough.

Put $\frac{A B}{2} = \frac{100}{2} = a$, $\frac{C D}{2} = \frac{40}{2} = b$, D E = 30 = c, $\frac{A D - B D}{2} = x$, and D F = y. The triangles B D E, and B A C are ſimilar, and $a - x : c : : 2a : \frac{2ac}{a-x}$ = A C (by Eu. IV. 6) alſo $a + x : a - x : : \frac{2ac}{a-x} : \frac{2ac}{a+x}$ = B C (by Eu. III. 6) the triangles A C F and D C B, are ſimilar, and $\frac{2ac}{a+x} : 2b : : 2b + y : \frac{2ac}{a-x}$; therefore

$\frac{c^2}{x^2} = 4b^2 + 2by$, and (by Eu. XXXV. 3.) $2by = x \times \overline{a-x} = a^2 - x^2$, which ſubſtituted inſtead of $2by$ e other equation, gives $\frac{4a^2c^2}{a^2-x^2} = 4b^2 + a^2 - x^2$; ſolv-

$x = \sqrt{a^2 + 2b^2 \pm \sqrt{4a^2c^2 + 4b^4}} = 13.97015$; hence $= 63.97015$, $BD = 36.02985$, $AC = 83.2642$, and $= 46.8969$.

bolium. $AD : DE :: AB : BC$. For $AD : BD :: : BC$ (by Eu. III. 6.) and $BD : DE :: AB : AC$ (by IV. 6.) conſequently $AD : DE :: AB : BC$, by Eu. III. 5.

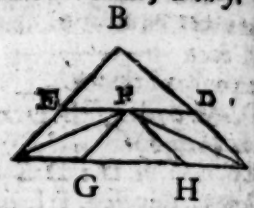
The ſame by Amicus, Royal Navy, Portſmouth.

et $AB = a$, $CD = b$, $DE = c$, $AD = x$, $BD = y$, $= z$, and $CB = u$.

n per om.	1	$xu = yz$
	2	$zy = ac$
	3	$zu = b^2 + xy$
	4	$x + y = a$
1, 2	5	$x = \frac{ac}{u}$
2	6	$y = \frac{ac}{z}$
5×6	7	$xy = \frac{a^2c^2}{zu}$
3 7	8	$zu = b^2 + \frac{a^2c^2}{zu}$
8	9	$z^2u^2 - b^2zu = a^2c^2$
□ &c.	10	$zu = \sqrt{a^2c^2 + \frac{b^4}{4}} - \frac{b^2}{2} = 3904.834 = d$.
3 10	11	$xy = zu - b^2 = d - b^2$
11×4	12	$4xy = 4d - 4b^2$
4 ♀ 2	13	$x^2 + 2xy + y^2 = a^2$
3 — 12	14	$x^2 - 2xy + y^2 = a^2 + 4b^2 - 4d$
14 lw²	15	$x - y = \sqrt{a^2 + 4b^2 - 4d}$
4, 15	16	$x = \frac{a + \sqrt{a^2 + 4b^2 - 4d}}{2} = 63.9702$
4, 15	17	$y = \frac{a - \sqrt{a^2 + 4b^2 - 4d}}{2} = 36.0298$
5	18	$u = \frac{ac}{x} = 46.89686$
6	19	$z = \frac{ac}{y} = 83.26448$.

Other ingenious Solutions were also given by Messrs. A. Buchanan jun. T. Todd, G. Dixon, P. Hall, J. Salter, W. Salter, and D. Sheridan.

IX QUESTION (38) *answered by Mr. P. Hall, Denby.*



Construction. Make A C equal to the given perimeter, or sum of the three sides; at A, C, make the ∠'s B A C, B C A, equal the given ∠'s; draw A B, C B, intersecting each other in B, bisect the given ∠'s A with the right lines A F, C F meeting each other in F; then draw F G, F H parallel to A B, B C respectively, and G F H will be the triangle required.

Demon. Draw D E parallel to A C, then the ∠ D E A = ∠ F A C (Euc. 6. 1.) = ∠ D A F; therefore A G = G F, and in the same way of reasoning F H will be proved = C H, consequently F G + F H + G A = A G + G H + H C = A C the given perimeter.

Calculation. The numerical solution to this question is extremely easy, for in the △ A F C are given all the angles and the base A C, whence A F, and F C become known; then in the △'s A F G, and F C H are given all the ∠'s, and the sides A F, and F C; whence F G, F H will also be known.

The same by A. Buchanan, jun. Sedgefield.

Construction. Make E F = the given sum of the three sides: moreover, make the ∠'s C E A, C F B = half the given respective ∠'s at the base, and draw E C, F C to intersect in C; lastly, make the ∠'s E C A, F C B = the ∠'s C E A, C F B respectively, and draw C A, C B to intersect E F in A and B; then will A B C be the △ required.

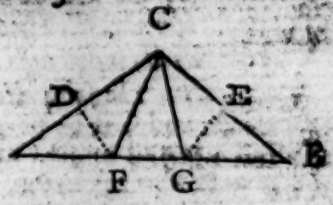
Demon. The ∠ E C A = C E A, and the ∠ F C B = C F B by conf. therefore E A = A C, and F B = B C (Euclid 1. 6) conf. A C + A B + B C = E A + A B + B F = E F, the given sum by conf. moreover (by Euclid I. 32) the ∠ C A B = ∠ E C A + C E A = 2 ∠ E, and the ∠ C B A = ∠ F C B + C F B = 2 ∠ F. But the ∠'s E and F are half the given ones (by conf.) therefore, &c.

Cal. As S. ∠ E C F. (= ∠ A C B + E C A + B C F = 180° − ∠ B A C − A B C + ½ B A C + ½ A B C = 180° − ½ ∠ B A C − ½ A B C) : E F :: S. ∠ E (= ½ ∠ B A C) : C F, and :: S. ∠ F (= ½ ∠ A B C) : C E. Then as S. ∠ C A B (= 180° − ∠ B A C) : C E :: S. ∠ E : A C, and as S. ∠ C B F (= 180° − ∠ A B C) : C F :: S. ∠ F : B C.

The

The same by Mancuniensis.

Construct. Draw the right line B = the sum of the sides, on ich construct a triangle A C B, ose angles C A B, and C B A, ll each be equal to half the en ones at the base; bisect A C D, and B C in E, erect the per-



dicular s D F and E G, & join the points C F, and C G; so l C F G be the triangle, that was to be constructed.

Demon. Because A D = D C, and D F perp. and common to h Δ's, C F = A F, and for the same reason C G = B G; con-uently C F + C G + F G = A F + F G + B G; also F A C A C F, and G B C = B C G, and (Euclid I. 32.) F A C + F = C F G, and G B C + B C G = C G F, ∴ F A C = F G, and G B C = $\frac{C G F}{2}$ Q. E. D.

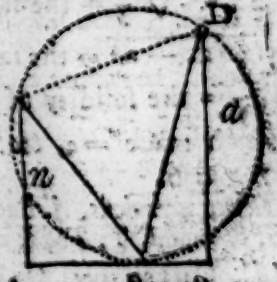
Comput. As sine A C B : sine C A B :: A B : B C, and cosine A : rad. :: B E : B G = C G; also sine C F G : sine C G F :: C G : C F, and A B — C F + C G = F G.

To avoid the imputation of plagiarism, I think it necessary to ntion, that at the time of proposing the 9th Question, I did not ow it had ever been answered geometrically; but having since rchased Dr. *Hutton's* Republication of the Ladies Diaries; I d, that it has been done some time ago, in a work called the *thematician*; but whether the method of Construction and monstration be the same as mine, or not, I am still ignorant, ing never had an opportunity of seeing that work.

Messrs. J. Leybourn, J. Salter, W. Salter, and D. Sheridan, also e ingenious answers.

X. QUESTION (40) *by a Buchanan, jun.*

Let A B be the fence; C, D, the o trees; A C, B D, their ⊥ distance m the two ends A, B, of the fence. n C, D, and describe (by Prob. II. page 247, Simpson's Geome-) a circle, C P D C, to pass through points C, D, and touch the line B; then to the point of contact, P, w C P, D P, and C P D will be the equired.—The demonstration and culation of which, as indeed the ole of the construction, may be seen at Prob. XLIV. page , Simpson's Algebra.—By calculation (according to the ve quoted problem) A P comes out = 14.6874 chains; cons. = 8.3126 chains, and thence the ∠ C P D = 52° 53'.



Geometrical

Geometrical ſolutions were given by Meſſrs. T. Booth, G. Dixon, P. Hall, Jon. Hornby, W. Hulland, T. Leybourn, Mancunienſis, Philo Mathematicus, J. Salter, D. Sheridan, and Joſ. Waters.

The ſame otherwiſe by Mr. T. Todd.

Let C A, and C B be perpendicular to A B, and C P D the required greateſt angle, and put a = D B = 28.4, n = C A = 19.8, m = A B = 23 chains, and x = A P, P B = $m - x$ (ſee the preceding figure) then $\frac{a}{m-x}$ = nat. tang. D P B, $\frac{n}{x}$ = tang. C P A, and the tang. of the ſum of theſe angles = $\frac{ax - nx + nm}{mx - x^2 + an}$ is a minimum when the angle C P D is a maximum. In fluxions $\frac{\dot{a}x - n\dot{x} \times mx - x^2 + an - m\dot{x} + 2x\dot{x} \times a\dot{x} - n\dot{x} + nm}{mx - x^2 + an} = 0$, which reduces to $x^2 + \frac{2nmx}{a-n} = \frac{nm^2}{a-n} + an$; $\therefore x = \frac{-nm}{a-n} + \sqrt{\frac{nm^2}{a-n} + an + \frac{n^2m^2}{a-n}^2} = 14.75414 = A P$, and P B = 8.24536; $\therefore$ nat. tang. of $\angle$ D P B = $\frac{D B}{P B} = 3.44415 =$ 73° 49′, and nat. tang. C P A = $\frac{C A}{A P} = 1.34199 =$ 53° 18′; $\therefore$ $\angle$ C P D = 52° 53′ nearly.

XI. Question. (40) *Anſwered. By Mr. Pat. Hall, Denby.*

Put x = the perpendicular altitude of the cone, and $b = 16\frac{1}{12}$ feet. Then per the laws of gravity $\sqrt{\frac{x}{b}}$ = the time the ball is falling down the perpendicular, and per *mecha.* $\sqrt{\frac{x''}{b}} : 2'' :: x : 2x \div \sqrt{\frac{x}{b}}$ = the ſlant ſide of the cone; and Euc. 47. 1. $\sqrt{4bx - x^2}$ = the radius of the baſe; then $3.14159 \times 4bx - x^2 \times \frac{x}{3}$ = the ſolidity of the cone, a maximum, the fluxion of which made = 0, &c. $x = \frac{8}{3}b = 42.88888$; then the baſe = 60.654036.

Meſſrs. Amicus, A. Buchanan, G. Dixon, Mancunienſis, J. Salter, D. Sheridan, T. Todd, and T. Whiting, alſo gave anſwers.

XII. Question. (41) *Anſ. By Mr. D. Sheridan, Wednesfield.*

Let x = the ſine of the required angle; then by page 247 of Simpſon's Algebra $3x - 4x^3$ = triple the $\angle$ flux'd is $3\dot{x} - 12x^2\dot{x} = 0$; hence $x = \frac{1}{2}$, which anſwers to 30°, whoſe triple = 90°, the greateſt poſſible, in caſe of right $\angle$'s.

The ſame was anſwered by Mancunienſis, the Propoſer.

XIII. Ques-

XIII. Question (42) *Answered by Mr. Dan. Sheridan.*

Put $a = 40$, and $x =$ the distance from the lesser lamp; then $a - x =$ distance from the greater: now it being demonstrable, that light is inversely as the sq. of the dist. and directly as the denseness of the luminous body; we have $\frac{2}{\overline{a-x}^2} + \frac{1}{x^2} =$ a minimum; or $2 \times \overline{a-x}^{-2} + x^{-2} =$ a min. flux'd is $2 \times -2\dot{x}\overline{a-x}^{-3} - x^{-3}\dot{x} \times x = 0$; hence $x = \frac{a}{1 + \sqrt[3]{2}} = 17.7$, and $a - x = 22.3$.

Solutions were also given by Messrs. A. Buchanan, T. Fox, Mancunienſis, and J. Salter.

XIV. Question (43) *Answ. By A. Buchanan, jun.*

Since $y^4 - x^2y^4 = x^2a^2 \therefore y = \overline{\frac{a^2x^2}{1-x^2}}^{\frac{1}{4}} = a\lambda^{\frac{1}{2}} \cdot \overline{1-x^2}^{-\frac{1}{4}}$,

$\dot{y} = a\lambda^{\frac{1}{2}} \cdot \overline{1-x^2}^{-\frac{1}{4}} \dot{x} = \dot{x}\sqrt{ax} \times : 1 + \frac{x^2}{4} + \frac{5x^4}{32} + \frac{15x^6}{128}$ &c. (by throwing the radical quantity into a series, &c.) the fluent of which give $z = \sqrt{ax} \times : \frac{2}{3}x + \frac{1}{14}x^3 + \frac{5}{176}x^5 + \frac{15}{960}x^7$ &c. the area required.

Messrs. Leybourn, Mancunienſis, Mercurius the propoſer, and Mr. Todd, alſo anſwered it.

XV. Question (44) *Answered. By Virtuoſo.*

Correcting the preſs error $\sqrt{\log. \frac{\dot{z}}{b}}$ to $\sqrt{\log. \frac{\dot{z}}{\dot{b}}}$

To obtain the fluent of which, let $a = 2.7182818$, the hyperbolic logarithm of 1, and $\frac{z}{b} = v$, then will $a^v = \frac{z}{b}$, and $z = bv$; alſo ſince $\log. \frac{z}{b} = v$, taking the fluxion $\frac{\dot{z}}{z} = \dot{v}$. and $\dot{z} = b\dot{v}a^v$; wherefore $\sqrt{\frac{\dot{z}}{\log. \frac{z}{b}}} = \frac{b\dot{v}a^v}{\sqrt{v}}$; but $a^v = 1 + \frac{v}{1} + \frac{v^2}{1.2} + \frac{v^3}{1.2.3} + \frac{v^4}{1.2.3.4}$ &c. and $\frac{b\dot{v}a^v}{\sqrt{v}} = b\overline{v}^{\frac{1}{2}}\dot{v} + \frac{b\dot{v}^{\frac{3}{2}}\dot{v}}{1} + \frac{b\dot{v}^{\frac{3}{2}}\dot{v}}{1.2} + \frac{b\dot{v}^{\frac{5}{2}}\dot{v}}{1.2.3}$ &c. wherefore the fluent of $\frac{\dot{z}}{\sqrt{\log. \frac{z}{b}}} =$ the fluent of $\frac{b\dot{v}a^v}{\sqrt{v}} = 2b\dot{v}^{\frac{1}{2}} + \frac{2b\dot{v}^{\frac{3}{2}}}{3.1} + \frac{2b\dot{v}^{\frac{5}{2}}}{5.1.2}$ &c. W. W. R.

Solutions were alſo given by Mancunienſis and Mr. T. Todd.

XVI. QUESTION (45) *Prize answered.* *By Mancuniensis.*

To the given circle whose centre is C, draw the indefinite tangents A B and A D perpendicular to each other; determine the point E in the circumference of the given circle, so that drawing E C, erecting E B ⊥ E C, to terminate in A B, and bisecting F B in G; E F may be a mean proportional to F G and A G; or, which is the same, that if E C be continued; to terminate in A B at I, F I may be $= \frac{GA^2}{2}$; also continue B E to

D, with the vertex G, abscis F G, and ordinate F E rightly applied, describe the parabolic curve G E H, terminating in A D; so shall A G E H be the required semi-parabola, and A D B the right angled triangle, circumscribing both the given figures.—For, per property of the parabola, F G : F E^2 :: A G : A H^2, and, per constructe. F G : F E :: F E : A G, or F G : F E^2 :: A G : A G^2, consequently A G = A H, or the abscis A G is equal to its greatest ordinate A H,—Moreover by constructe. A B and A D, are tangents to the given circle, and because E B is perpendicular to E C, B E D is a tangent to the circle; also because the sub-tangent B F is double the abscis F G, it is likewise a tangent to the parabolic curve G E H, and consequently the right $L \triangle$ A D B, circumscribes both the given figures. Q. E. D.

The same by Mr. Buchanan, Jun. Sedgefield.

Let E M P be the given circle, H E G A the required semi-parabola, and D B A the required triangle; put the radius of the given circle = C M (= E C = C P = P A = A M) = r, x, and y = the sine and co-sine of the $\angle$ C B M = C B E (rad = 1) then (per trig.) the sine, and co-sine of the L E B F = 2 M B C is = $2xy$, and $1 - 2x^2$ respectively; and (by trig.) $x : r :: y : \frac{ry}{x}$ = B M = B E, and as rad. 1 : $\frac{ry}{x}$ :: $2xy : 2ry^2$ = F E. Moreover, as rad. 1 : $\frac{ry}{x}$ :: $1 - 2x^2 : \frac{ry}{x} \times 1 - 2x^2$ = B F. Therefore, by the nature of the parabola, $\frac{ry}{2x} \times \overline{1 - 2x^2} = \frac{BF}{2}$ = B G = G F; and B M — B F = F M = $\frac{ry}{x} - \frac{ry}{x} \times \overline{1 - 2x^2} = 2rxy$; consequently A G (= G F + F M + M A) = A H (*per quest.*) = $\frac{ry}{2x} \times \overline{1 - 2x^2} + 2rxy + r = \frac{ry}{2x} + rxy + r$. But by the

* *As this is a curious problem, not generally known, and well worthy the attention of geometricians, I would beg leave, by permission of the Editor, to propose it to be considered at large at some future opportunity.*

perty of the parabola, GF : FE² :: GA ; AH² (GA²) ::
AG ∴ GF × GA = FE²; or in symbols $\frac{ry}{2x} \times 1 - 2x^2$
$\frac{ry}{2x} + rxy + r$, or $r^2 \times \frac{y}{2x} - xy \times \frac{y}{2x} + xy + 1 = 2ry^2]^2$
r^2y^4; consequently $\frac{y}{2x} - xy \times \frac{y}{2x} + xy + 1$, or $\frac{y^2}{4x^2} -$
$^2 + \frac{y}{2x} - xy = 4y^4$; or by reduction, &c. $y - 4x^4y + 2x$
$x^3 = 16x^2y^3$. Hence, by the method of trial and error, y
ound = .9463326, answering to the nat. fine of 71°. 8'. 38". =
ICB = BEN, from whence the required semi-parabola, and
ngle may very easily be drawn, or all the dimensions there-
sily found.

Patrick Hall gave an ingenious solution to this question. Other Solutions received were not right.

rata by Mancunienſis to his ſolutions, &c. in the Diary for 1790.

age 34 line 15, *for* $\sqrt{\cdot 592}$ *read* $\sqrt{\cdot 592}$, line 18, *for* $\sqrt{\frac{6561}{\cdot\sqrt{592}}}$ *read*
$\frac{6561}{\sqrt{592}}$ line 19, *for* $\sqrt{\cdot 591}$, *read* $\sqrt{\cdot 592}$; page 36, line 3, *for*
$\sqrt{\cdot 592}$

pendicular, *read* perpendiculars; line 7, after circle add, in the ſame manner BG = GE = CE and BG is alſo a tang. he circle; line 8, *for* ſimi, *read* ſemi; inſert B to one end he diognal in the fig. to my ſolution of queſt. VII; line 4 n bottom, *for* draw a, *read* drawn; page 40, line 21, *for* ad $\frac{L}{2}$; page 45, line 2 from bottom, *for* ſhews, *read* ſhew; 47, line 31, *for* tripple, *read* triple.

. B. Laſt year we ſent the place of the new planet, over which the er placed Saturn's character, and omitted Saturn's place.

r. John Farey, and Mr. John Needham's letters laſt year came too o the compiler's hands; Mr. Farey anſwered the 15th, 16th, 17th, and 21ſt queſtions.—Mr. Needham anſwered all the enigmas, pa-x, anagram, and 12th, 13th, and 14th queries: and propoſed 1 na; 1 rebus, 1 charade, 1 paradox, and 3 queries.—Mr. Lam. anſwered the 11th queſtion, and propoſed 1.

QUESTIONS to be anſwered in next Year's DIARY.

QUESTION (46) *By Mr. William Marſden, Netherhurſt, Derbyſhire.*

oung Sim his addreſſes to *Polly* doth pay,
t to his ſoft rhet'ric her anſwer is nay;

She tells him as yet, ſhe too young is to marry,
And therefore intends a while longer to tarry.
Now from what's ſubjoin'd, you may truly diſcover,
How long ſhe deſigns thus to torture her lover.

$x+\frac{3y}{2}=xy$
$x^3-y^3=z^2+y^2+xy$

y being ſhe ſays the years, and z the months, ſhe intends to live ſingle longer.

II. Question (47) *By Mr. A. Buchanan, jun. Sedgefield.*

Given $xy=460$, and $yx=320$; to find x and y?

III. Question, (48) *By Mr. Joſeph Waters, Graves-Lane, near Southwell, Nottinghamſhire.*

Given the ſum of the cubes of the three ſides of a right angled triangle (whoſe area is 30) $=4050$; to determine the ſides?

IV. Question (49) *By Mr. William Plues, North-Holme.*

Required the ſemi-diameters of thoſe two circles with which an hypocrates lune may be deſcribed to contain an acre of land.

V. Question (50) *By Mr. Daniel Sheridan, Wednesfield.*

Having an acre of land in form of an ellipſis, whoſe tranſverſe and conjugate diameters are in the ratio of 8 to 5; I want to know the coſt of its peremeter at ſix pence per inch, alſo its greateſt inſcribed equilateral triangle?

VI. Question (51) *By Mancunienſis.*

Required a general expreſſion, by which to obtain the degree in any arc of a circle, when the difference between its tangent and ſecant is equal to any given Quantity: alſo to exemplify when the difference is .5, and the radius of the given circle 1; and to determine the limits of this difference?

VII. Question (52) *By Mr. Jonathan Hornby, of Weſtern School, near Whitby, Yorkſhire.*

By obſervation June 7th, 1789, at ſix in the evening, the ſun's azimuth from the weſt, was found to be double his altitude; required the latitude of the place, being north?

VIII. Question (53) *By Mr. Thomas Leybourn.*

What is the odds of not throwing either 35, 36, 37, or 38 once in three trials, with ten dice.

IX. Question (54) *By Mr. W. Salter, jun. of Bilſton.*

Required the greateſt ellipſis that can be inſcribed between the peripherys of two concentric circles, whoſe diameters are 40 and 60?

X. Question (55) *By Mr. T. Degnam of Bilſton.*

Two ſhips, A and B, ſail in the N.E. quarter; ſo that if the fine of A's courſe be multiplied by the ſquare of co-tan of B's courſe the product $=.814637$, and if the fine of B's courſe be multiplied by the ſquare of the chord of the compliment of A's

rſe, the product = .548776, they ſailed equal diſtances, but departure exceeds that of A's by 12.45 miles; quere, each 's courſe, and diſtance ſailed?

II. Question (56) *By Mr. Patrick Hall, Denby, Derbyſhire.*

On the 21ſt of June, 1789, in lat. 53° 6′ N. my walking ſtaff, nding perpendicular on a horizontal plane, did caſt a ſhadow inches long, but being inclined towards the ſaid ſhadow, it s then 50 inches long, the ſtaff in the two poſitions ſubtended angle of 58°, how many hours did the ſun ſet after taking dimenſions of the ſhadow, the time being afternoon?

II. Question (57) *By Mr. George Dixon, Goſport, Hants.*

ou who delight to tread the paths of truth,
nd point out ſteps to guide the British youth;
ho daily ſoar on ſcientific wings,
nd drink delight from mathematic ſprings,
ho can with *Newton*, "mount where ſcience guides,
an meaſure earth, weigh air, and ſtate the tides."
n philoſophic ſubjects dictate well,
nd nature's laws can weigh in reaſon's ſcale;
rom theſe ſublime and knotty things deſcend,
nd help for once, a ſcientific friend.
w then, in latitude of fifty one, 51° N°. lon. 17°w.
re ſtands erect a right and tow'ring cone,
ich on the third of June a ſhade did throw
. P.M. in length foot thirty two.
n outſide of its baſe; the cones content
enty thouſand foot, good meaſurement,
from the top of this ſtupendous cone,
ron ball of ſix pound weight roll down;
tell me what velocity 'twill have
n it the ſurface of the cone doth leave.
wiſe how far upon the horizon,
ball of iron will exactly run
re it ſtops, as no impediment
retard its motion, or its courſe prevent.
hen theſe I ſee, my thanks you ſure ſhall have,
nd if the authors pleaſe, the prize I'd give.

XIII. Question (58) *By Mancunienſis.*

iven a line drawn from the vertical angle, to terminate in make a given angle with the baſe *(produced if neceſſary)*; alſo e radii of two circles, inſcribed in the triangle touching other; and the angle made by lines drawn from the centres of theſe circles to meet in the vertex of this triangle; to ruct it?

XIV. Question (59) *By Mancunienſis.*

Given the radii of two circles touching each other inſcribed in a plane triangle, the angle made by lines drawn from their centers to interſect in the vertex; to conſtruct the triangle; ſo that drawing lines from the points of contact in the baſe to the vertex, the angle formed thereby may be a minimum;

XV. Question (60) *By Mr. R. Carliſle, Leighdon, in Holland formerly of Sedbergh, Yorkſhire.*

Required the ſum of the ſeries $\frac{1}{p \times p+1} + \frac{1}{p+1 \times p+2} + \frac{1}{p+2 \times p+3}$ &c. continued, ad infinitum.

XVI. Question (61) *By Mr. T. Todd, Cleaſby, near Darlington.*

To determine the axes of an ellipſis ſuch, that two requiſite quadrants thereof ſhall be the leaſt that can circumſcribe a given circle?

XVII. Prize Question. (62) *By Mancunienſis.*

A ball whoſe diameters is 12 inches, let fall down a vertical plane, arrived at the bottom in 4 ſeconds; required the length of the plane, and how much it muſt be inclined to the horizon that another ball may move down it exactly in the ſame time, and alſo what reſpective velocity each ball will have acquired in that time; ſuppoſing, in the firſt caſe, that the ball moves in a reſiſting medium of uniform denſity, whoſe ſpecific gravity to that of the ball is as 1 to 1000; that the reſiſtance of this medium is as the ſquare of the velocity; in the latter caſe, that the ball moves in vacuo; and that the plane is in both caſes perfectly void of friction?

The Prizes, for the ſeveral ſolutions, have been determined by lot as follows: firſt, for the prize queſtion, to *Mr. Tho. Todd of Cleaſby* 12 *Diaries*.—2d. For the prize *Enigma* to *Mr. Tho. Fox, Norton* 6 *Diaries*.—3d. For the general anſwer to the *Enigmas* to *George Dixon, of Goſport*, and *Philomathematicus* 6 *Diaries* each. 4th. For the general anſwer to the rebuſes, charades, &c. to *Benjamin Kemp. of Farnsfield*. All of whom will pleaſe to call for them to *Mr. Pearſon*, printer, in *Birmingham*.

All letters for the uſe of this Diary, are deſired to be directed "For Meſſrs. Cotes and Taylor, to be left with Mr. Joſeph [illegible] High-pavement, Nottingham (poſt paid) to come to hand by the 1st of May.

Mr. John Degnan anſwered 1, 2, 3, 4, 5, 7, 8, *and* 9 *queſtions in his letter dated April* 7, 1790; *but which did not come to hand till a copy was finiſhed.*

FINIS